Apprenticeship policies in comparative perspective: ET-structures, employment relationship, export

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Founded in 1963 by two prominent Austrians living in exile – the sociologist Paul F. Lazarsfeld and the economist Oskar Morgenstern – with the financial support from the Ford Foundation, the Austrian Federal Ministry of Education, and the City of Vienna, the Institute for Advanced Studies (IHS) is the first institution for postgraduate education and research in economics and the social sciences in Austria. The **Sociological Series** presents research done at the Department of Sociology and aims to share "work in progress" in a timely way before formal publication. As usual, authors bear full responsibility for the content of their contributions.

Das Institut für Höhere Studien (IHS) wurde im Jahr 1963 von zwei prominenten Exilösterreichern – dem Soziologen Paul F. Lazarsfeld und dem Ökonomen Oskar Morgenstern – mit Hilfe der Ford-Stiftung, des Österreichischen Bundesministeriums für Unterricht und der Stadt Wien gegründet und ist somit die erste nachuniversitäre Lehr- und Forschungsstätte für die Sozial- und Wirtschafts-wissenschaften in Österreich. Die **Reihe Soziologie** bietet Einblick in die Forschungsarbeit der Abteilung für Soziologie und verfolgt das Ziel, abteilungsinterne Diskussionsbeiträge einer breiteren fachinternen Öffentlichkeit zugänglich zu machen. Die inhaltliche Verantwortung für die veröffentlichten Beiträge liegt bei den Autoren und Autorinnen.

Abstract

This paper provides a collection of three critical analyses of aspects of apprenticeship systems. Emphasis is laid on the complexity of collective skills formation systems and the differences between them. The first chapter compares Austria and Switzerland with respect to the overall structures of formal education and training, and how apprenticeship is embedded in these structures. The different provisions of permeability are also analysed. The second chapter analyses how apprenticeship in Austria, Germany, and Switzerland have come through the recent crises, managing a relatively low level of youth unemployment. The role of labour market policy is analysed as a complement to apprenticeship. The third chapter looks critically at the ideas of exporting such a complex entity as apprenticeship. It identifies much rhetoric and reinforces the many studies that have shown the difficulties of transfer and finally concludes that much myth and political branding is at work in these attempts.

Zusammenfassung

In diesem Papier werden drei Beiträge über verschiedene Aspekte der Lehrlingsausbildung zugänglich gemacht. Es wird Augenmerk auf die Komplexität dieser Systeme kollektiver Formation von Kompetenzen gelegt und es werden die Unterschiede herausgearbeitet. Kapitel 1 vergleicht die Bildungsstrukturen Österreichs und der Schweiz und arbeitet die unterschiedliche Positionierung der Lehrlingsausbildung und den Stellenwert von Durchlässigkeit heraus. Kapitel 2 analysiert, wie die drei klassischen Systeme Österreichs, Deutschlands und der Schweiz in der aktuellen Krise ihre relativ niedrige Jugendarbeitslosigkeit aufrechterhalten haben und welche Rolle Arbeitsmarktpolitik dabei spielte. Kapitel 3 beschäftigt sich mit dem Export von komplexen Systemen und zeigt den hohen Grad an Rhetorik wie auch die Unwahrscheinlichkeit von erfolgreichem Transfer.

Keywords

apprenticeship, youth labour market, complexity, permeability, labour market policy, policy export

Schlagwörter

Lehrlingsausbildung, Jugendarbeitsmarkt, Komplexität, Durchlässigkeit, Arbeitsmarktpolitik, Politikexport

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This is a collection of draft papers prepared for different conferences/volumes; revised versions appeared or will appear in:

I. Lassnigg, Lorenz (2015), Words, numbers, charts, etc. Some quantitative-qualitative comparisons between Switzerland and Austria, in: Katrin Kraus, Markus Weil (eds.) *Berufliche Bildung historisch – aktuell – international*, Eusl, Detmold, pp. 243-249;

II. was presented as a paper Lassnigg, Lorenz (2014) Apprenticeship policies coping with the crisis: Austria compared to Germany and Switzerland at the International *Conference: Youth in transition: VET in times of economic crisis*, 22-24 September 2014, University of Cologne (presentation: http://www.equi.at/dateien/koeln-2014-pres-pdf.pdf) and will appear in the conference volume (Springer);

III. Lassnigg, Lorenz (2015), The Political Branding of Apprenticeship into the "Dual System": Reflections about Exporting the Myth of Employment Transition, in: Anja Heikkinen, Lorenz Lassnigg (eds.), *Myths and Brands in Vocational Education*, Cambridge Scholars Publishing, Newcastle upon Tyne, pp. 78-98.

Contents

Introduction

Apprenticeship, or collective skills systems in a more recent conceptualisation, as a specific form to provide vocational education and training (VET) has gained strong interest since the deteriorating impact of the recent economic crises on the youth labour market. This paper provides a collection of three critical analyses of certain aspects of how apprenticeship systems are structured and how they are working. A main emphasis is on the complexity of existing systems, and the differences between them. The classic systems of Austria, Germany and Switzerland are compared with each other and to some extent also put in perspective with a broader collection of countries/systems.

The first chapter compares Austria and Switzerland with respect to the overall shape of the education and training systems, and how apprenticeship is embedded in these structures. The different provisions of permeability are also analysed more deeply.

The second chapter analyses how Austria, Germany, and Switzerland have come through the crises, managing a relatively low level of youth unemployment. Based on the Austrian experience, a closer look is devoted to the role of labour market policy as a complement to apprenticeship in holding unemployment down.

The third chapter looks critically at the ideas of exporting such a complex entity as apprenticeship. It identifies much rhetoric and reinforces the many studies that have shown the difficulties of transfer and finally concludes that much myth and political branding is at work in these attempts.

Extended documentation of material is presented in two annexes, the first going deeper into the role of apprenticeship in the youth labour market and important topics for a comparative evaluation of vocational education, elaborating extensively on the available OECD and EUROSTAT data. The second annex provides extended material about a comparison of Austrian and Swiss education and training frameworks, based on official data from the statistical offices (the information in annex II is mainly provided in German).

I. Systemic embeddedness of apprenticeship: comparison of Switzerland and Austria[1]

1.0 Personal note about learning in Austria about Switzerland

Many years ago at some occasions the paper by Friedrich Engels from 1847 about the Swiss revolution were mentioned or even read in some Viennese circles, saying that at the – in his opinion – only occasion when the Austrian Dynasty tried to achieve something historically progressive, it were the Swiss ('Urschweizer') who opposed this most forcefully and won against Civilisation. Such ambivalent feelings can often be found in Austrian rhetoric about Switzerland ('it is easy to be good if you are so rich'), however, the main treatment is by and large driven by neglect – in particular if it comes to real attempts to learn from each other. The author has some significant experience, as his friend from school studied at ETH in the early 1970s, and so Zurich was one of the first destinations of autonomous travel, then per hitch hitchhiking, of course. One experience was to visit as a free-rider an impressive lecture at ETH by a Keynesian Economist after an 'economics-free' education in the Austrian 'Realgymnasium'. Another, even more significant experience representing the enlightened and modern Swiss culture was to see in Zurich Heidi Weber Haus (https://www.stadt-zuerich.ch/kultur/de/index/institutionen/lecorbusier.html) by chance an exhibition about the quite revolutionary Social Democratic Viennese Communal Housing Politics of the 1920-30s – it needed to go to Switzerland after 12 years education and gaining 'Maturity' in the Austrian Province to hear about these Austrian historical accomplishment.

In spring 2014 the author had also the opportunity to join an Austrian industrialists' fact finding mission about Swiss vocational education, and somehow to observe at the same time how the Swiss system was presented to the visitors by some of its protagonists, and how the Austrians perceived and discussed it. It was quite clear that the interests of a researcher are different from those of practicians; and a particular strong observation was how difficult it is to contextualise the many small and specific issues presented by the hosts and attended by the visitors' group into the more general systemic aspects and differences which were also communicated to some extent. As a result the author had the intention to go more deeply into these issues, and to reflect on what Austrian education policy makers could learn from Switzerland – if they were able to learn something. Quite much reading and attempts towards statistical comparisons followed, but there was not enough time to produce a systematic publication, thus much of the material is compiled in the annex II od this paper for further use.

The occasion of a Festschrift for Philipp Gonon was taken as an opportunity to go a bit into some of the issues. We both were always somehow independent and interested observers of the strengths and weaknesses of apprenticeship, without supporting it in a 'fundamentalist' way. We have also discussed about how to use numbers, and transform them into meaningful information and knowledge, and there was a plan to produce a stylized chart of the Swiss education system according to the approach the author has used for Austria several times in his presentations. So for the current chapter two topics are selected, one is how systems charts are used to represent specific issues of a complex ET-system and to mask others, and to which extent the use of quantitative information might contribute to understanding; the other topic concerns 'permeability', a topic about which the Swiss presenters were particularly proud of, and its documentation by statistical data as an aspect of the structure of education systems (see for a deeper analysis of Austria Lassnigg 2014).

1.1 Comparative charting of education systems

The figures 1 and 2[2] compare the structure of the official representations of the 'national' education systems to representations by the author based on participants' data per years of age. The first version of the Austrian system was produced for the contribution about Austria by Altrichter/Posch to the International Encyclopaedia of Education 1994. At this time the situation was very different to

[1] See Lassnigg, Lorenz (2015), Words, numbers, charts, etc. Some quantitative-qualitative comparisons between Switzerland and Austria, in: Katrin Kraus, Markus Weil (eds.) Berufliche Bildung historisch – aktuell – international. Festschrift zum 60. Geburtstag von Philipp Gonon. Eusl, Detmold, pp. 243-249.

[2] More detailed charts can be found in the internet http://www.equi.at/dateien/at-ch-charts.pdf

today, as it was quite difficult to acquire the data about the participation per yearly age cohorts in the education system. Several aspects must have been solved by assumptions and constructions. Today the data are available in the internet, and by comparison the author experienced that the Swiss data and their public documentation is much more transparent and generous than the Austrian one.

A basic decision for the construction of the original Austrian chart was to document the deep split between the lower and medium levels of vocational education on the one hand, and the upper level academic and vocational institutions that provided the 'Matura' examinations and the entitlement for the access to university studies. Another aspect that followed more or less automatically from the use of quantitative data for the representation was the visibility of the amount of early drop-outs immediately after compulsory education. At this time this was a quite conflictual issue as the existence of early drop-outs was politically suppressed, and the dominating statistical representation of these times (difference between number of students in grade 10, the first year after end of compulsory schooling, and the size of the normal age cohort at this grade, the 16 year olds) actually gave an almost non existing amount of drop-outs (the estimate being diminished by students from other age cohorts than the single reference cohort of 16-year olds in the grade). This simple and hegemonic representation was abolished when the 'official' drop-out indicator became actually negative, because the students at grade 10 became increasingly mixed by age and their number exceeding the size of the 16-years age group; see Steiner/Lassnigg 2000). This topic clearly illustrates how political objects (the problem of drop-outs) are constructed from the use of representations of 'facts'. The political neglect and suppression of the phenomenon of drop-outs changed gradually, when early school leaving became a policy issue and was defined as a statistical indicator and benchmark in EU politics.

If we compare the official representations of ET-systems, the phenomenon of drop-outs still does not exist, as only the 'positive' types and institutions of education are included in the charts (Fig.1). Nevertheless, we see quite strong national differences of the messages coming out of the official charts.

- The Austrian chart gives first a very strong visibility for the still separate institutions of special education; secondly strong horizontal separations between the primary, lower secondary, and upper secondary levels are indicated (a gap which is overemphasised for the academic track of schools); third the tracking at the lower secondary level is clearly marked, and finally tertiary education is built upon the school sector only (the apprenticeship system being charted aside).
- The Swiss chart puts first a big emphasis on a comprehensive portrayal of the elementary, primary and lower secondary levels with a dominating primary school and an undifferentiated lower secondary school; second the chart documents explicitly the possible paths of further careers at upper secondary and tertiary levels; third the apprenticeship system clearly dominates at the upper secondary level (Austria rather emphasises the colleges of higher vocational education); and finally the tertiary system spans over the whole range of upper secondary education, with the polytechnic sector being built upon the vocational baccalaureate being acquired from apprenticeship.

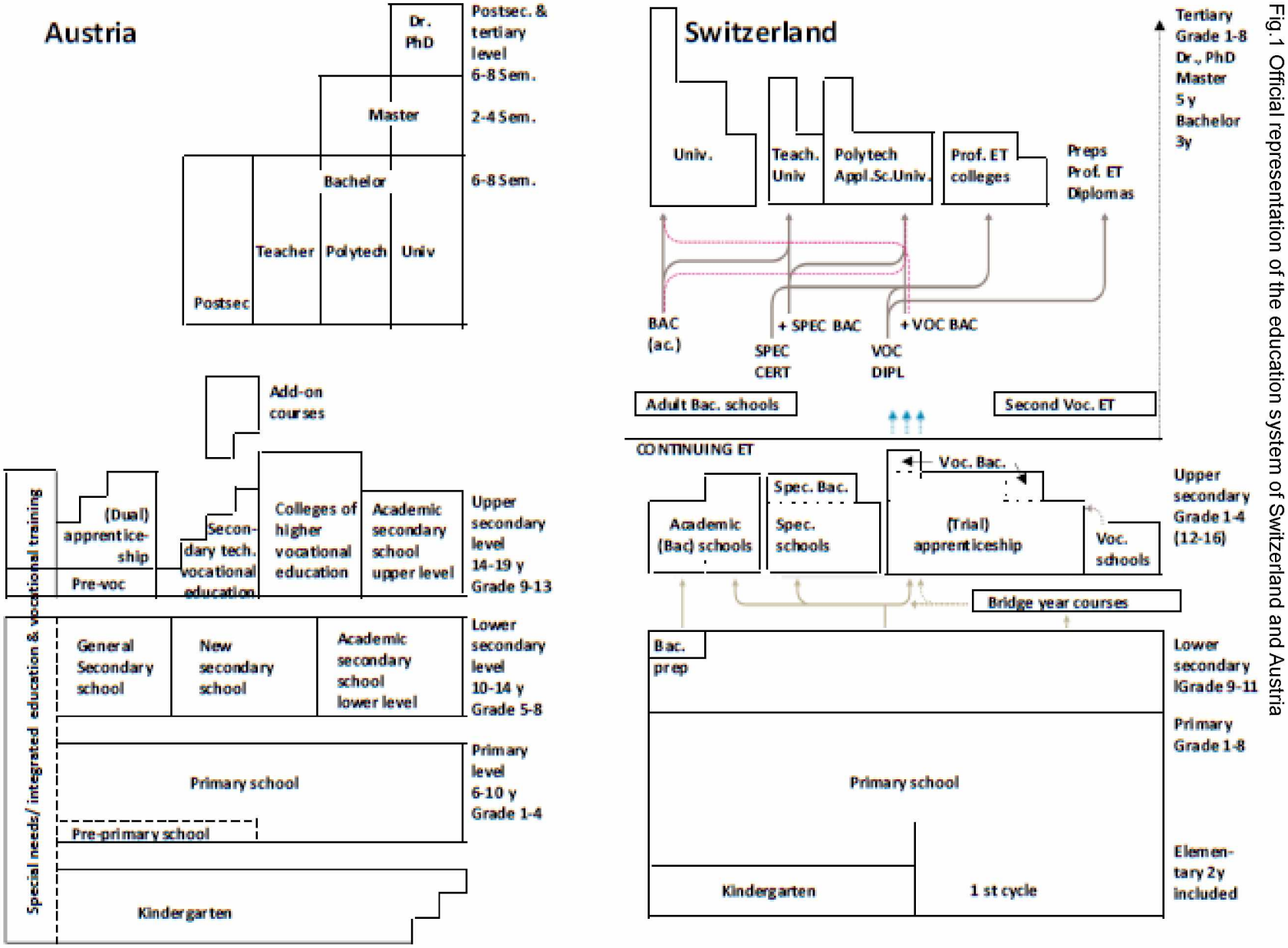
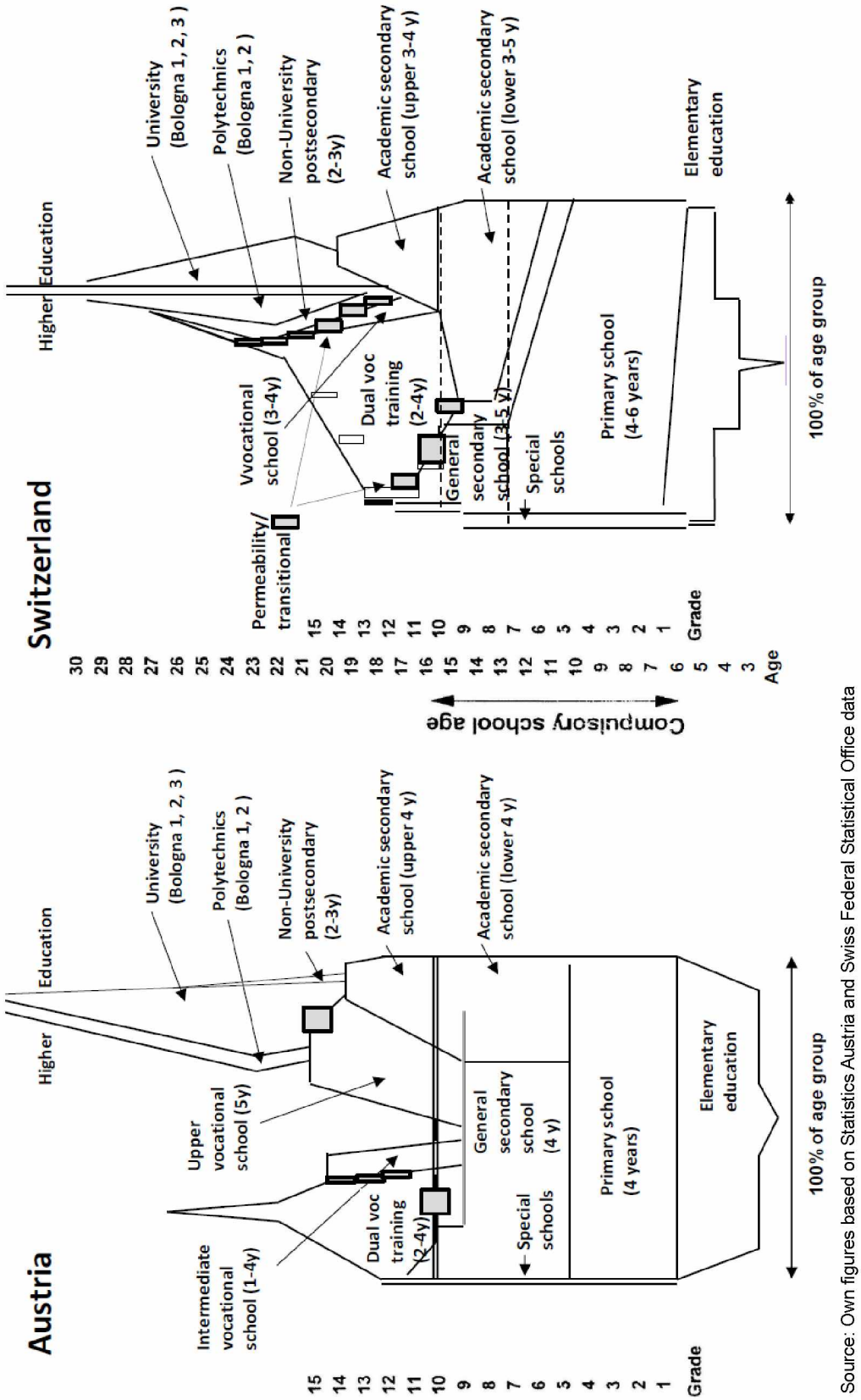


Fig.1 Official representation of the education system of Switzerland and Austria

Source: Own figure, simplified, based on BMBF for Austria www.bmbf.gv.at/schulen/bw/ueberblick/bildungswege_2014_grafik.pdf and EDK for Switzerland http://www.edudoc.ch/static/web/bildungssystem/grafik_bildung_e.pdf

Fig.2 Representation of the Swiss and Austrian education system based on participation



Source: Own figures based on Statistics Austria and Swiss Federal Statistical Office data

What kinds of information or knowledge does the quantitative perspective (Fig.2) add to the 'official' organisational charts? Making an attempt to 'match' comparable elements of the systems, we have to take into account that a 'national' Swiss chart is to some extent 'fictional' as it provides an average of the different cantonal systems; therefore many oblique lines represent some distribution of participation already in compulsory schooling.[3] Another difference is that the Swiss system looks quite a bit 'lighter' than the Austrian one, and more concentrated to three elements: (i) primary school, (ii) academic secondary school (which includes the lower secondary 'erweiterte Ansprüche' and the upper secondary Gymnasium), (iii) apprenticeship; the Austrian system is more diversified to six major sectors.

In contrast to the comprehensive presentation in the organisational chart the participation is broken down according to the available statistical categories at lower secondary level (Grundansprüche named 'general'; erweiterte Ansprüche named 'academic'; ohne Niveau-Unterscheidung, which is the smallest and seems to prevail mainly in Cantons with shorter primary and longer secondary education) and distinguishes also the three categories in apprenticeship (Anlehre, EBA-Attest; EFZ-Fähigkeitszeugnis). The 'erweiterte-Ansprüche-academic' track is much wider than in Austria, and must also provide for many transitions into apprenticeship, whereas in Austria rather transitions from the 'general' tracks into upper level vocational colleges take place. In apprenticeship the Anlehre and the Attest provide very small sectors only, somewhat in contrast to the extensive discussion of differentiation of apprenticeship in Gonon/Maurer 2011.

Another aspect treated in the quantitative chart concerns the statistical categories which explicitly provide for permeability: Übergangsausbildungen up to upper secondary or tertiary levels, Vocational Baccalaureate and Pasarelle. These categories are explicitly displayed in the Swiss education statistics, however, are not so easy to observe in Austria. Put into the Swiss chart, the proportions of students in these categories seem rather small in quantity related to the overall participation. This quantitative measure cannot be directly interpreted as a measure of high or low permeability of the ET-structures. A small proportion might represent an overall high or low permeability: if permeability is basically high, only few people need specific additional provisions for transitions; if permeability is basically not sufficient, a small compensating proportion would indicate a not so favourable situation.

1.2 'Permeability' – tricky questions

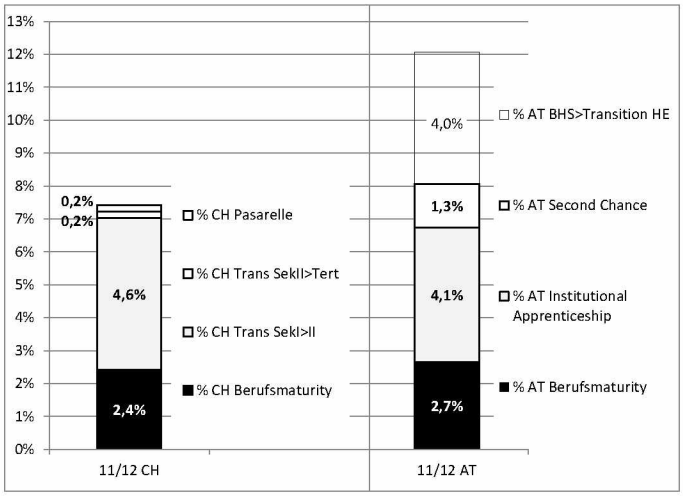
Comparing the presentations and discourses about permeability, Austria and Switzerland seem completely opposite cases. In the Austrian debates and programmatic about education policy a low degree of permeability and an urgent need for improvement is clearly stated by most observers from which camp ever (a notable exception are representatives from the full-time school vocational institutions). In Switzerland the presentations by the hosts during the above mentioned visit, as well as various available materials clearly state that permeability could be achieved as one of the most important strengths of the ET-system.

[3] The length as well as the institutional structures differ by cantons, and are mixed within cantons; see the detailed analyses/presentations of regional school-structures: http://www.edk.ch/dyn/15673.php; http://www.edudoc.ch/static/strukturdaten/pdf_rohdaten/069a.pdf

So the author asked himself, how the comparative quantitative proportions would look like in the two contrasting systems. Fig.3 tries to compare the amount of young people in provisions for permeability, and if we would take this as a valid indicator, a fundamental difference between Austria and Switzerland would not really exist. For Switzerland the small proportions in the Pasarelle and the Übergangsausbildungen to the tertiary level seem to contrast somewhat to the significance put on them in the presentations.

The main difference would rather be that the provisions of permeability are not so easily visible in Austria, as they are partly provided outside of the education establishment by Labour Market Policy (institutional apprenticeship which seems equivalent to the Übergangsausbildungen up to upper secondary level). The explicit second chance provisions might be difficult to compare, as the age composition might include older people at least in Austria, so the Austrian figure probably overstates the proportion. A difficult question concerns the inclusion and measurement of the provision of access to higher education by the upper secondary vocational colleges. In fig.3 the actual transitions are related to the upper secondary student population with the colleges themselves counted as 'higher vocational education' and thus tertiary. In this perspective Austria includes a similar or higher proportion of young people in permeability provisions than Switzerland.

Fig.3 Proportions of young people in provisions for 'permeability'.



1.3 Conclusion

The comparison has posed some tricky questions at least to the author firstly about how to assess permeability using education statistics, and second about what it means in a systemic perspective if we consider the vocational colleges as part of secondary or tertiary education. Maybe these questions can inspire Philipp Gonon for further looks at the issues.

II. Apprenticeship policies coping with the crisis: Austria compared to Germany and Switzerland[4]

2.1 Background and Strategy for Analysis

The research undertaken for this paper started with a sequence of analyses of the conditions and development on the Austrian youth labour market, and was extended to the comparative analysis of Austria, Germany, and Switzerland. This guides to some extent the analysis, as the findings and explanations about Austria serve as an initial point of reference. So the question is, whether explanations put forward for the Austrian patterns might be generalized to the other countries or systems - this perspective is more specific, and also different from a kind of comparison that would start with an overall theoretical or explanatory framework, and test some general hypotheses. Nevertheless, the analysis starts from some more general theoretical assumptions, mainly based on institutional approaches (Busemeyer & Trampusch 2011), which constitute the direction of the research questions: First, it has been recently shown that there are quite huge differences between systems that are deemed very similar in the political and scientific discourses, i.e. between the 'collective skills systems' of countries that build their 'skills formation' substantially on versions of apprenticeship training (even if branded differently, i.e., the famous German 'Dual System', that explicitly has refused to call the apprentices 'apprentices'). Second, it has been argued convincingly that the emergence and working of these systems cannot be explained sufficiently by (simple) market economic or rational choice assumptions, but one should take into account the complex constellations and interactions of the actors involved who are embedded in differently shaped patterns of institutional frameworks, i.e. institutional and political structures and processes. Consequently it must be expected that these constellations also play a role in how the transition process from education to employment is shaped in different contexts. Indeed, there are very demanding and complex arguments in institutional political economy to explain the interplay of skill formation and employment (Busemeyer & Iversen 2011), a main point being that the industrial relations must be considered. In fact it is not clear, to which the two are separable, or to which degree skill formation is an inseparable part of the employment relation, which might work differently in different configurations. This paper will not venture deeper in these theoretical questions, but tries to contribute some empirical observations based on quantitative secondary statistics. In particular attention is given to social security and LMP as parts of industrial relations.

The employment relation and the industrial relations might be essential with two respects: first if apprenticeship is based on an employment contract, apprentices are counted as employed in the statistics, so the positive relationship is to some extent tautological; second, the employment relation is a basis for inclusion and generation of social security entitlements, with somewhat contradictory effects, as the entitlement for unemployment benefits might lead to a positive relationship between apprenticeship and unemployment, on the other hand this also creates a channel into LMP, which at least statistically leads to a reduction of unemployment. The evaluations and econometric studies, in

[4] See the presentation of the paper Apprenticeship policies coping with the crisis: Austria compared to Germany and Switzerland at the International Conference: Youth in transition: VET in times of economic crisis, 22-24 September 2014, University of Cologne http://www.equi.at/dateien/koeln-2014-pres-pdf.pdf

particular on an aggregate level, often do not make clear, whether apprentices are also classified as employed on the other side of the equation.[5]

From the perspective on the Austrian discourses about the youth labour market, in which the author participates already since decades, there appears a certain contradiction to the mainstream opinions about the relationship between apprenticeship and youth transitions: Whereas expectations widely prevail that there might be a kind of 'natural' linkage that serves for a smooth transition into employment via apprenticeships, the Austrian discourses at least are since the 1980s highly focused on how the problems on the youth labour market can be alleviated by political interventions. Why, if there is this 'natural' relationship, is there so much political attention to this? Taking this question further, we may ask: how might the conditions on the youth labour market be influenced by this political attention? How much might politics and policies influence the performance on the youth labour market and the frameworks of transition? It seems forgotten or underplayed in the contemporary debates, that the demand for apprentices has always been related to the demand for labour, and thus to the economic cycle, leading to a decline of access at the same time as general unemployment is rising.[6] This linkage on the one hand might heavily contribute to the employment prospects, but on the other hand would also determine access to apprenticeship according to the demand for labour. So access to apprenticeship would be an 'economic good' rather than a publicly supported right, which would constitute a distinction between apprenticeship and public vocational schooling.

The expectation concerning the 'natural' relation between incidence of apprenticeship and low youth unemployment is easily contradicted by looking at the labour market statistics. Only some of the countries using apprenticeship as a substantial part of vocational education are situated on the lower end of the range of youth unemployment in Europe or the OECD. Steedman (2012) has classified countries according to their use of apprenticeship, and we can easily see that the incidence of youth unemployment varies widely among the countries using apprenticeship substantially. The three countries of interest here, and the two others included in the Busemeyer and Trampusch (2011) volume are clearly at the lower end; however there are also four other countries which were classified as using apprenticeship which show medium or high youth unemployment. So Steedman (2012, Sect. 1) explicitly rejects the idea to build on the expected 'natural' relationship.

While a positive relationship between apprenticeship and low youth unemployment can be observed over time, it would be misguided to see apprenticeship primarily as a 'cure' for high youth unemployment [...] it is not a sufficient solution to improving the labour market transition of young people with poor school achievements or other disadvantages.

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5 This aspect seems unclear in an EU-study about the impact of apprenticeship, in which the authors do not consider this relationship. They show and interpret correlations between incidence of apprenticeship and employment, unemployment, and rates of young people neither in education nor employment (NEETs), and per country. The results are completely dominated by the three countries Austria, Germany and Denmark (it's only about EU, so Switzerland is not included); and the NEETs indicator - which is less related to employment - shows the least robust results (ECORYS, IES, IRS 2013).

6 The analysis of effects of the economic cycle would need rather longer data series to be independent from specific conditions; most available analyses use time spans since the mid-1980s which are somehow driven by the exceptional baby boomers from the 1960s, which came to apprenticeship at the same time with the economic turbulences of the early 1980s, so the analyses get stronger effects from demography than from the economic cycle, and some tend to downplay the latter. (see estimations by Mühlemann et al. 2009; Müller & Schweri 2006 for Switzerland; Stöger & Winter-Ebmer 2001 for Austria; Baldi et al. 2014; Troltsch & Walden 2010 for Germany)

There must be additional conditions in apprenticeship that bring about the smooth transition. Interestingly, the mainstream discussion does not reflect high interest into these specific conditions. The attempts to push apprenticeship politically at the EU (CEDEFOP 2014) and OECD (2012a) level, or to sell it on the education market (BMBF 2014), rather take another way of argument. It is agreed that apprenticeships are highly complex frameworks comprising many different factors, among them the close relationship to the employment relation and experience has also clearly shown that attempts to 'export' or implement the whole system do not work. So a kind of assemblage approach is taken that identifies many elements or factors, and proposes to try some of these, hoping that the positive outcomes will somehow evolve. The approach is not to identify the key factors, and propose to use these, but rather to use a kind of abstract expression of apprenticeship, and to transfer more or less eclectically some elements that seem interesting to buyers or receivers.

As Austria, Germany and Switzerland are not only commonly at the lower end of youth unemployment, but seem to belong also to a common cultural context, it seems justified to assume a high degree of similarities among them, and to seek among these for an explanation. A closer look discloses also huge differences among them, not only concerning the political and economic structures and positioning, but also concerning the apprenticeship systems themselves, as to the way they developed, and are structured. To compare these whole contexts and frameworks would also be beyond this chapter, but must be kept in mind.

Bringing the topic down to an observational level that can be illuminated by the kind of data available and used, the analysis takes the following strategy. First the development in Austria is summarised from the previous studies and the conclusions are formulated as hypotheses to be challenged by data from the other two countries; second, some indications about the context, in particular differences in the participation in apprenticeship are summarised; third the comparisons are displayed, using in particular two dimensions (i) whether youth unemployment is really lower in comparative terms than general (adult) unemployment, (ii) whether the LMP data indicate a relatively increased use of these measures in the compared countries.

2.2 Basic Framework and Analysis of Austrian Development

The overall question is, how Austria, compared to Germany and Switzerland came through the recent crisis so far by maintaining the comparatively low levels of youth unemployment; this might also give some more general hints about how certain apprenticeship systems are related to low youth unemployment. Theoretically the analysis is using an institutional approach due to the political economy of collective skills systems, based on historical institutionalism (Busemeyer & Trampusch 2011). This approach extends the reasoning beyond a (simple) rational choice and market economic logic, including institutional structures and processes (e.g. patterns of firm involvement; intermediary actors; certification, institutional change) as well as political structures and processes (e.g. the struggles about who controls, provides, pays for skills formation, and the power relations between employers and employees, and the existing structures of representation). Important aspects in this concept are contingencies and continuous struggles leading to dynamic states and periods of stabilisation and destabilisation; therefore the approach does not assume stable (generalised)

structures within which decisions are taken, but expects substantial differences between systems of a similar kind and also dynamics/changes in those systems. An important element of this institutional approach is that it considers also the industrial relations, i.e. the compressed wage structure in coordinated market economies. This chapter gives particular attention to social security and LMP as parts of industrial relations.

On this theoretical background we can assume that the relationship of apprenticeship to employment is part of the political struggles and the dynamic outcomes of these, and not only a 'technical' issue as dealt with from a market economic or rational choice perspective. Asking, how this relationship might have been built up and maintained we must consider first the structural issues, and second the contingencies which might result from the various dynamics included.

2.2.1 Apprenticeship and Employment: Key Ingredients

If we look at the current political and research based debates about apprenticeship, and its political or policy transfer we see that there is no consensus about the key ingredients of apprenticeship. There is high consensus about the complexity of existing systems, and the difficulty of transfer, which has mostly failed so far. However, there seem to be mainly two basic approaches of how the key ingredients are modelled (see the discussions in ECORYS, IES, IRS 2013 about the definitional issues, and the chapters about apprenticeship in Maurer and Gonon 2014).

- One is more holistic, and takes the employment contract between an enterprise and the apprentice (or his representatives) as the core and necessary element, several other ingredients are important, but if the core one is not fulfilled, apprenticeship does not prevail; this approach is focused on work, and has a clear linkage to the economic reasoning about employment decisions, etc.
- The other takes the element of work based learning as the core, and is also more of an assemblage type concerning the ingredients, with a kind of contractual relationship also included, however, mainly about learning issues, and which might also be concluded between schools/educational institutions and enterprise(s); this approach is focused on skill formation and pedagogical issues, and the amount of work based learning might widely differ in this approach, from some weeks to a substantial proportion (Wieland 2013).

The Austrian Institutional Structure

The main thesis based on the Austrian development related to the maintenance of low youth unemployment is that the outstanding factors are not qualification/learning but employment/working. The linkage is established through three interrelated aspects, (i) the employment contract that includes a collectively bargained training allowance compensating for the lower productivity of apprentices' work; (ii) the inclusion into the social security system, in particular constituting the entitlement for unemployment insurance; (iii) the employment related attention to apprentices from LMP, with a rather low attention from the side of education.

Given these three linkages, the chain employment-social security-LMP includes an important element of scale, as apprenticeship affecting a comparatively small target group is included in a much larger system of LMP; because of the sheer demographic numbers of much fewer young people than adults

the potential (gross) impact of LMP to reduce youth unemployment is relatively increased (a huge budget for young people is small in relation to the overall LMP budget, so one could say that from the overall budget 1 EUR devoted to youth affects much fewer persons than 1 EUR devoted to adults, and thus it might also be politically easier to find those EURs for youth).[7]

An additional element in this chain is given by the fact that the employment relation of apprentices has constituted the full institutionalisation of the apprenticeship market as a specific sector of the labour market, which is handled in a homologous way to the overall labour market and which is also specifically documented and monitored statistically. Thus there are monthly figures reported of supply and demand, and of course the unemployment ratio on the apprenticeship market, etc.

This institutional structure of apprenticeship constitutes more options for (at least formal) inclusion of young people into employment and/or education than school based structures alone: in addition to the option of school education there are the additional options of employment/apprenticeship and of LMP measures; the latter pose many additional questions, however, in a first instance, they reduce youth unemployment measured by the established indicators. From this argument the question arises which weight the LMP-measures carry in reducing youth unemployment.

In sum, from this institutional trait we can infer that the main reasons for lower youth unemployment are not related to the educational side of apprenticeship but are rather related to the inclusion of the apprentices (and thus potentially of young people throughout) into the employment regulations and the social security system.

The political dynamic and the actors constellations in the transitional space

So far the basic institutional structures have been described. The institutional approach also considers the political dynamics, and the constellations among the various actors in the realm of the state as well of the employees' and the employers' representatives. Here the specificity exists that the enterprise part of the apprenticeship system is under the responsibility of the Ministry of Economic Affairs which gives also a strong influence to the social partners, and the par time compulsory school part of apprentices is under the responsibility of the Ministry of Education, whereas LMP is under the responsibility of the Ministry of Social Affairs/Labour.[8] This structure of divided responsibilities can be seen as a source of coordination problems, as well as it can be a source of institutional complementarities. A closer look gives indications for both. On the one hand, overall education and training policy cannot be managed according to a kind of overall comprehensive plan; rather the different parts develop according to their own paths. On the other hand, with respect to problems on the youth labour market, institutional complementarities prevail, as the different actors contribute from their specific potentials to solutions. As the institutional structure is also related in a specific way to the

[7] A similar argument of scale was used in the analysis of British higher education, when the budget responsibility for universities was shifted from the Ministry of Finance where it was a relatively negligible proportion of the whole budget, to a specific Ministry, where the same sum had to compete with all the other Ministries, and has consequently been put under much more scrutiny.

[8] The specific names and constructions of these Ministries have varied over time, so we use here the basic functional expressions which hold over time.

political actors, their competition patterns also point rather towards solutions of the problems than to distortions, or coordination problems.

Basically, as a result of the institutional structure we can speak of a transitional space that comprises three sectors for access of young people: (i) fulltime schools, (ii) apprenticeship (iii) LMP measures. Three different Ministries as actors of the state are responsible for these, each for one sector. In addition the social partners are involved particularly through apprenticeship and LMP (where they are governing the public employment service to which LMP is devolved). A traditionally established relationship of these institutional actors to the political parties and the organisations of employers and employees also contributes to solutions. Within the governance of apprenticeship main responsibilities are delegated to the economic chambers, creating an imbalance to the employees' organisations, which are inclined to put special scrutiny to the social components of apprenticeship. Moreover, as long as the (past) main political parties have constituted coalition governments the Christian-democratic Österreichische Volkspartei (ÖVP) dominated the employers' side of the social partners and have staffed the Ministry of Economic Affairs, whereas the Socialdemocratic Party (SPÖ) dominated the employees' side of social partners and staffed the Ministry of Social Affairs/Labour. In this constellation the social as well as the economic interests are well represented, and the competition serves that each force guards the other for not compromising the conflicting goals and objectives.

A critical junction in the early 1980s

On the sketched background an additional factor comes to bearing, which concerns a clear political priority given to the alleviation of problems of youth unemployment. This priority can be clearly traced back to the early 1980s, when the economic turbulences of these times reached Austria, and unemployment started to rise. In the mid-1980s a specific configuration of main factors basically influenced the youth labour market, as the extraordinary large birth cohorts from the 'baby-boom' years met coincidentally a difficult economic situation. This constellation concerns many countries; however, often unemployment has started to rise earlier, so it might not have been so clearly visible. In this period the first political programmes to fight youth unemployment were launched in Austria, and the political attention has constantly been held up since then for now three decades (Lassnigg 1999, Kreisky/Svihalek 1989, BMSV 1984). The basic structure of policies has built on these early programmes, and has been further developed and extended. From the beginning the support of apprenticeship has been a main part of these measures, based on the observation, that with economic downturns the demand for apprentices has gone down. In terms of historical institutionalism we could term this period of the early 1980s as a critical junction, where a kind of basic decision was taken, to hold youth unemployment down, and to make this also to a main object of political competition and benchmark, so as to hold attention to it over time. In short the Austrian constellation can be summarised by the following points:

- apprenticeship as a form of the employment relation,
- creates specific formalised employment positions (contract),
- and a specific sector of the labour market, that is regularly observed, monitored and reported,
- creates inclusion into social security and LMP,
- and becomes a target of concentrated LMP measures,
- the apprenticeship market gets also into political monitoring,
- with the figures of supply/demand becoming a constantly attended political object/target.

This framework gives a strong weight to the political level, whereas evaluations of more specific measures often give very moderate or negligible results. It must be mentioned that different aspects are concerned in the argument taken, as compared to the specific evaluation problems. The argument is about a longer term pathway, which has no easy counterfactual, as the proposition is that at a critical juncture a basic path was constituted to hold youth unemployment down, which could serve as a basic floor at later challenging points in time, because the scale of the problem has remained manageable. In this path, evaluations of specific measures could give - and in fact also have given - weak results; nevertheless holding substantial proportions of young people in measures has firstly helped to hold the unemployment figures down (as measures are expensive, this is only possible if the figures are not too high), and has secondly also to some degree helped young people with their transition. This argument should not be considered cynical, as - even if we do not know so much which measures are really optimally effective, it seems better to give a try by some treatment with uncertain results than to let young people completely being on their own. Actual statistics show that in Austria there are comparatively few long-term unemployed young people, because every person has to be transferred to a measure before reaching the threshold of three months duration (besides, this also holds down unemployment, because duration is a main factor of increasing it).[9] We will also show that some measures are quite creative and promising.

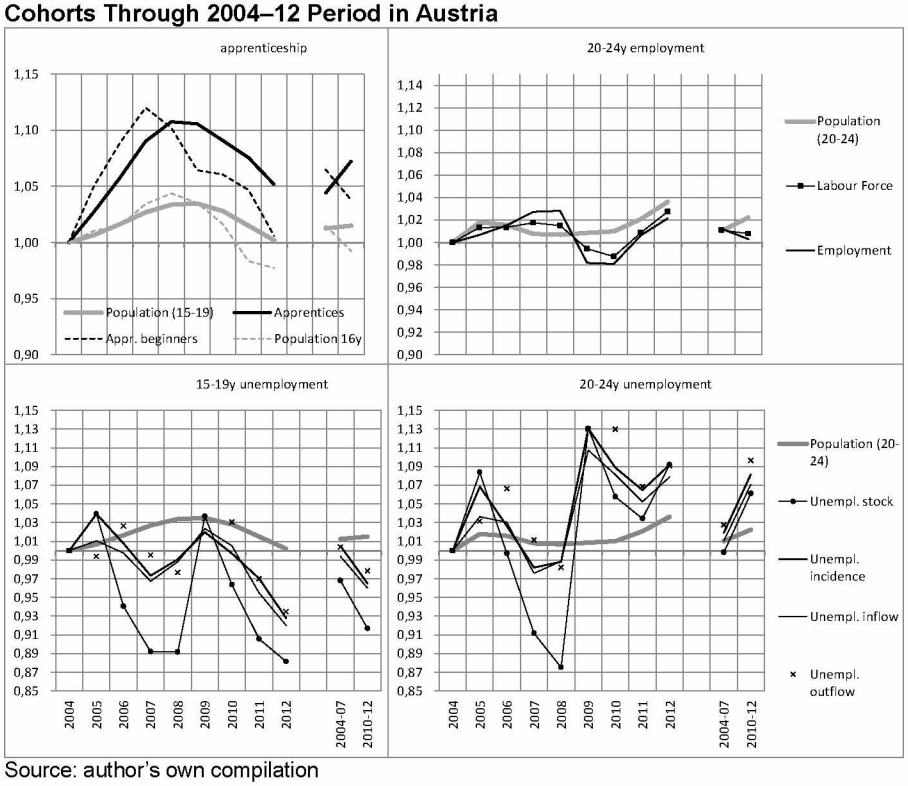
2.2.2 The Way Through the 2008 Crisis on the Austrian Youth Labour Market

To exemplify the framework above, we can first identify the main structures of the Austrian policies in the three sectors of school, apprenticeship and LMP, and will then look at the way the young people took through the different sectors during the period shortly before and after the crisis (displayed in figure1).

- In school sufficient places are available, and the specific construction at the compulsory-post-compulsory edge that has included the first year of post-compulsory (mainly vocational) schools as the last year within compulsory schooling, provides strong incentives to start a post-compulsory career; in addition the medium level vocational schools which have some problems of competition provide much support to their students (partly under measures to fight early school leaving).
- In apprenticeship, which starts after compulsory schooling, one year later than fulltime post-compulsory schools, several supporting measures have been provided during the previous decades, including on the hand institutional changes that have increased the available paths of apprenticeship and have reduced regulatory 'burdens' on enterprises (in particular loosened the lay-off restrictions in the beginning), and on the other hand providing financial incentives of many kinds for taking up additional apprentices, or to start new apprenticeships. The latter are organised as part of LMP, and there have been regions in Austria where already in the 1980s about one fourth of apprentices were supported by this kind of measures.

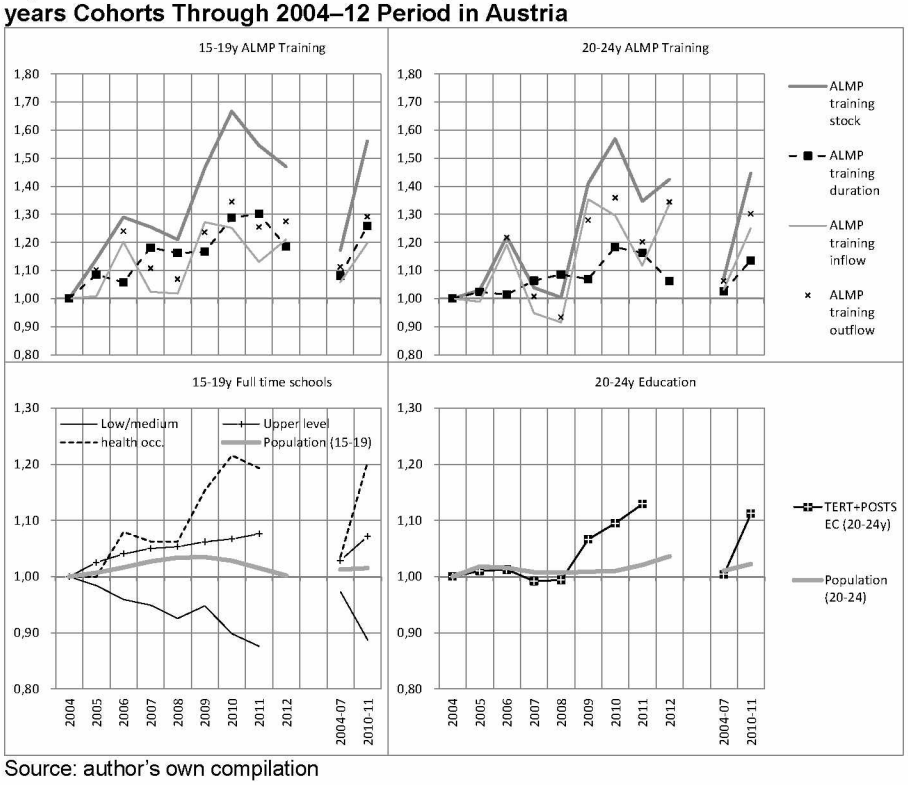
[9] In 2014 the proportion of persons (incidence) unemployed longer than 180 days averaged at two percent below 20 years and at four percent in the 2024 years age group, as compared to 24 percent among all unemployed persons (see statistics of Public Employment Service, Sect. Long-term Unemployed http://www.ams.at/_docs/001_jb2014.pdf; some years ago the proportion was even reported at zero.

Fig. 1 Apprenticeship/Employment and Unemployment. Movement of 15–19 years and 20–24 years Cohorts Through 2004–12 Period in Austria



Source: author's own compilation

Fig. 2 Active Labour Market Training and Full Time Education. Movement of 15–19 years and 20–24 years Cohorts Through 2004–12 Period in Austria



Source: author's own compilation

- LMP provides meanwhile a wide system of measures of very different kinds, from short term counselling through vocational or key competences courses to production schools, and - developed through about one decade - also a programme of institutional apprenticeship giving full credentials and trying to find a transition into an enterprise based apprenticeship through internships as quickly as possible.[10]

Based on the figures of the various statistical bases we can try to reconstruct, how the young people moved through the three sectors during the period 2004–11 (figure 1 and 2). The observation is based on the main statistical data bases (LMP data warehouse, and education statistics by Statistics Austria), which provide the full population that is further distinguished to the younger 15–19 years old and the older 20–24 years old age group.[11]

Basically we can see a different demographic pattern in the age groups with an increasing pressure during the crisis among the younger, and a decreasing pressure in the older age group. Youth unemployment started at a relatively high level in the observation period, went down before the crisis, increased sharply in 2009, and decreased again subsequently. The younger and the older age groups differ by a much higher remaining level of unemployment after the crisis in the older age group; this is reflected also in a decrease of employment during 2008–10. Access to apprenticeship shows a sharp increase until 2007–08 (+ca. 10 percent) and then goes down to a level well above the beginning of the observation, however, the increase in LMP measures is much stronger (+65 percent until 2010), and is still about 50 percent higher in 2012 than in 2004. Fulltime post-compulsory schools show continuously the shift towards the upper level, with the lower and medium level declining; thus schools took less additional enrolment except the booming schools for health occupations in the younger age group, and the postsecondary and tertiary institutions in the older age group, which seem to react quite directly to the crisis.

Overall the comparison between the age groups show a more favourable development for the younger age group, despite the demographic strain, and in the older age group a rise of unemployment and a decline of employment, with a shift towards tertiary education in parallel. This reflects to high political priority that is given to the post-compulsory stage, with a strong focus on providing apprenticeship places for all young people seeking one. However, as apprenticeship is at the same time treated as employment - and therefore access is seen as a successful transition, the transition after completing or quitting apprenticeship is not given the same attention. Furthermore, no corresponding monitoring exists at this stage, as the completers are seen as adults, independently from their young age, and the overall low youth unemployment is greatly influenced by the younger age group.

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[10] This programme can be seen as a real alternative to the German ‚Übergangssystem', as it provides a full apprenticeship status, with a slightly lower 'wage' paid from the unemployment insurance, and full inclusion into social security, and potentially can also been used during the full period of apprenticeship.

[11] The one percent-sample based data from the Labour Force Survey or the Micro-Census are based on quite small absolute sample sizes, and can be used only in a limited way for the analysis of youth because of high error margins for subgroups (this applies also for other small countries).

2.3 Comparison of Austria to Germany and Switzerland

The comparison looks first at some indications of the basic structures of the post-compulsory education and trainings systems. This will show that the apprenticeship systems and the transition patterns are substantially different in the three countries. For this purpose a fairly new OECD recalculation of the education and employment positions of young people is utilised that considers overlaps of the different positions. These figures also show that the transition process becomes increasingly complex. Second the proposition will be explored, whether the apprenticeship systems really contribute to a substantially lower unemployment, by comparing the relation between adult and youth unemployment in the three countries. Thirdly, the OECD statistics about LMP are utilised to verify whether the Austrian LMP interventions are also high in an international comparison, and whether the two other countries have also used instruments of this kind to a comparable high degree as Austria. This analysis can also provide insights about the proposition taken that the contribution of apprenticeship to low unemployment is influenced by the chain from employment to inclusion into social security to LMP interventions.

2.3.1 Different Frameworks of apprenticeship and transitions

Despite the fact that there are some common traits in the overall shape of apprenticeship in the three countries beside the comparatively high weight it has in skill formation - i.e., enterprises as main training providers; big role of social partners, with more weight given to employers; regulation of qualifications through occupations and established value in the labour market; strong focus on work/employment; compulsory part-time school accompanying work-based learning and instruction - the systems have developed differently, and are currently shaped in highly distinctive ways. Because of the complexity of the systems as well as of the more concrete qualitative structures, as of their different embeddedness into the overall education system and into the wider economic and political structures of society, a strict comparison would need much space. Here some main stylized facts relevant to the interaction with the youth transition structures are given, illustrated by a new statistical classification provided by the OECD (figure 3). This classification combines the educational and labour market status and allows for overlaps between different positions, in particular education and work or unemployment (but helps also to identify the people neither in education nor employment (NEETs)). If this classification is further distinguished by age groups and certain additional qualitative information is used, it can give a very instructive comparative picture of the three systems under observation.

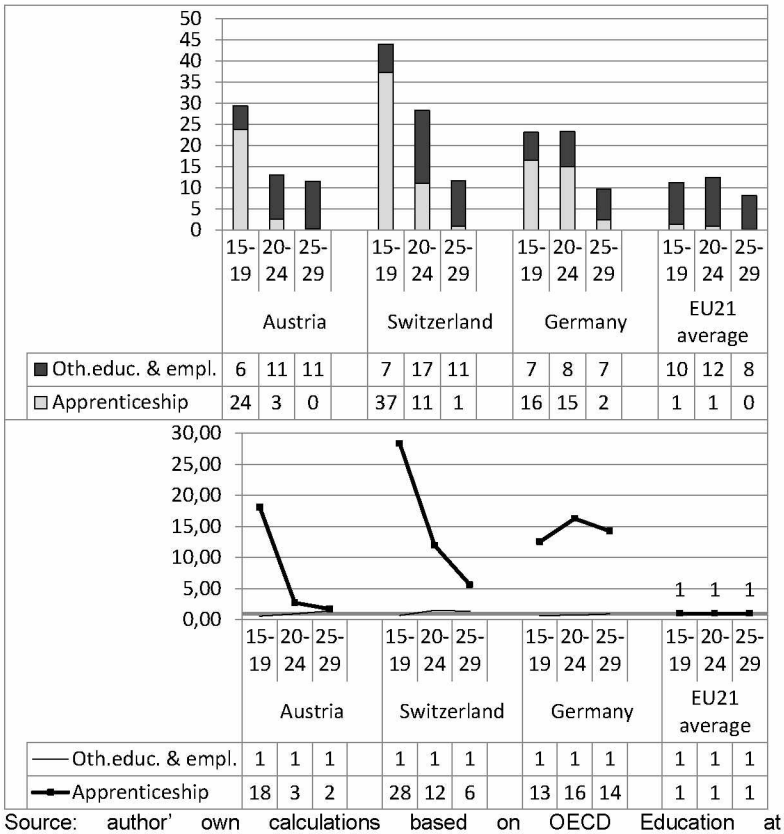
- First the classification makes a distinction between a combination of work and employment in education programmes (which we call apprenticeship), and an overlap between employment and education which might take many different forms (e.g., part-time work of students for their living which is completely unrelated to their educational programmes). We can see that the latter proportion is not so low in the EU, and makes also some part in the three countries, increasing with age in Austria and Switzerland.
- The bigger difference exists in the proportions of apprenticeship. In Austria almost all of apprenticeship is located in the 15–19 years age group, whereas this is clearly not the case in Germany, where only half of apprentices are located in this younger group. This reflects two main structural issues of the German system, first, apprenticeship has increasingly started after a longer

previous career in compulsory school, shifting from the normal ending after Hauptschule to Mittlere Reife which is a medium level qualification that adds about two years instruction and does not exist in Austria. This makes a later starting age (average about 18 years) and a bigger previous input of competences; the second difference is that apprenticeship is taken by a substantial proportion of completers of the upper level academic school (Abitur), which also provides the basic requirement to study in higher education, thus creating various kinds of overlap between apprenticeship and higher education (e.g., by studying after apprenticeship or even taking apprenticeship after higher education). This broadly indicates that in German apprenticeship implicitly two different sectors exist, a more traditional one at secondary level, and a higher level one that is rather comparable to tertiary education. In Austria this kind of higher level vocational education is provided by a specific type of upper level full-time schools (Berufsbildende Höhere Schulen), thus upgrading is going on here by institutional differentiation at upper secondary level, whereas in Germany within the apprenticeship system, which overall can be seen much more qualified, but also more differentiated (with higher entry levels), and providing a much wider range of opportunities.

- In Switzerland the distribution is also different from both countries, as the proportion is much higher in the young age group which indicates a stronger overall weight in early skill formation (half of which in Austria is provided by full-time schools at different levels, and a substantial part of 'post-secondary' participation also exists, but at a much lower scale than in Germany. The differentiation in the Swiss System by the two basic sectors of production oriented and investment oriented apprenticeships, as well as the permeability path via the 'Berufsmatura' or kinds of competence based examinations is not visible in these statistics. Different to Austria, the polytechnic sector (Fachhochschule) which has been established in Germany already in the 1970s, was in the other countries lately established in the 1990s, however, with very different positioning in the overall education system, and with very different scale: in Switzerland it was built upon the Berufsmatura and apprenticeship, and grew much more quickly, whereas in Austria it provides rather additional opportunities for the graduates of the upper level vocational full-time schools, which have provided access to higher education also before that.

Overall these stylised description indicate quite different paths of opportunity and transition in the superficially so similar systems, which in particular mean a much more narrow range of opportunities in the Austrian system, compared to the others. This means also that the apprenticeship systems in Germany and Switzerland attract a much wider range of young people in terms of interests, ambitions, and previous educational experiences than that in Austria. Nevertheless, a similar sector as the Austrian apprenticeship system can be assumed to be part of the German and Swiss systems also, providing access of young people with less successful educational careers to training enterprises which also are not belonging to the most competitive sectors or ranges of enterprises. From these different structures different ranges of policy problems and policy interventions can be derived.

Fig. 3 Proportion of Apprenticeship and Other Combinations of Education and Employment



Source: author' own calculations based on OECD Education at a Glance 2012 Tab C5.2a doi: http://dx.doi.org/10.1787/888932667425

2.3.2 Reduction of Youth Unemployment Through Apprenticeship?

In this section some indications about the widely held assumption that apprenticeship would smooth transition and reduce youth unemployment are provided. First the OECD data about overlaps of education and labour market positions are used to widen the view about unemployment, and second changes over time of unemployment indicators are analysed.

Unemployment and Persons out of Labour Force by Age Groups After the Crisis

The comparison gives the most favourable situation in Switzerland; all indicators in all observed age groups are well below the EU level (figure 4). The situation in Austrian and Germany is much more mixed. In Austria unemployment in the youngest age group is not below the EU level, and in both countries the proportion of young people not in the labour force is increasingly rising to the EU level through the age groups from a very low level among the 15–19 years age group. In Germany unemployment is in the three age groups grossly similar to Switzerland, in Austria it is even lower in both groups above 20 years. For Austria this picture based on the comparative (survey created) measurements of unemployment contradicts the earlier shown picture from national register data where the situation is more relieved in the younger group and becomes more severe with age.

Compared to the EU level indicators the overall picture shows that broadly - with the exception mentioned - unemployment is lower compared to EU in the three countries, however, the proportion of

young people out of labour force is not lower in the groups from age 20 to 29 years in Austria and Germany; thus attention should also be given to these groups and positions (figure 4).

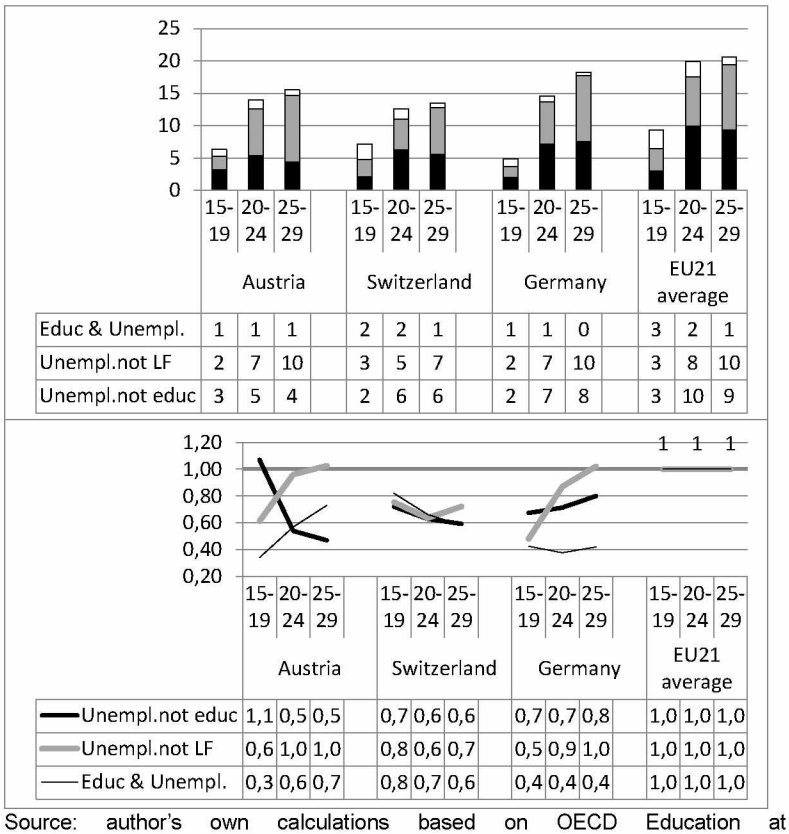
Unemployment of the Young Compared to Overall Unemployment

In the public and political discourses the much plausible expectation of lowering unemployment through apprenticeship is often indicated by comparing indicators of youth unemployment alone, and then suggestively traced back to the education structure - the relationship to the overall economic performance and the whole picture of unemployment is often not taken into account. Basically this relationship, which normally indicates that unemployment among young people is higher and has lower duration, as the whole dynamic of youth unemployment has been much researched and - using econometric modelling - has turned out a complex and severely disputed one, in particular, if the wider issues of transition are also considered (for an older yet still valid comprehensive overview see Ryan 2001, and more recent easily accessible, see Bell & Blanchflower 2011).

Without going deep into this discussion we can say that in the case of young people the more direct economic causes seem more strongly mixed with institutional aspects, among others of how qualifications are structured and utilised, and of which lines of segmentation exist, and there are several factors that may play a role. For the purpose here a very simple approach is used. The proposition is made that if the apprenticeship system makes an impact on the youth labour market, then youth unemployment should be visibly lower in apprenticeship countries compared to overall unemployment than in non-apprenticeship countries, and because as we have seen in the previous section the later make up the big majority, to the average.

Figure 5 gives some simple indications of this comparison based on the parallel observation of the relationship of overall unemployment in the three countries to the EU average on the one hand and the relationship of youth unemployment in the three countries to the EU level. The result basically indicates that only in Germany there is indeed an indication of a relatively lower level of youth unemployment to overall unemployment; in Austria and Switzerland the proportion to the EU average of both indicators is rather similar. The differences result mainly from a substantially higher overall unemployment in Germany, whereas in both of other countries the overall unemployment is similarly low relative to the average as youth unemployment.

Fig. 4 Proportion of Unemployed Persons in Education or Not And Persons Not in the Labour Force by Age Groups



	Austria			Switzerland			Germany			EU21 average		
	15-19	20-24	25-29	15-19	20-24	25-29	15-19	20-24	25-29	15-19	20-24	25-29
Educ & Unempl.	1	1	1	2	2	1	1	1	0	3	2	1
Unempl.not LF	2	7	10	3	5	7	2	7	10	3	8	10
Unempl.not educ	3	5	4	2	6	6	2	7	8	3	10	9

	Austria			Switzerland			Germany			EU21 average		
	15-19	20-24	25-29	15-19	20-24	25-29	15-19	20-24	25-29	15-19	20-24	25-29
Unempl.not educ	1,1	0,5	0,5	0,7	0,6	0,6	0,7	0,7	0,8	1,0	1,0	1,0
Unempl.not LF	0,6	1,0	1,0	0,8	0,6	0,7	0,5	0,9	1,0	1,0	1,0	1,0
Educ & Unempl.	0,3	0,6	0,7	0,8	0,7	0,6	0,4	0,4	0,4	1,0	1,0	1,0

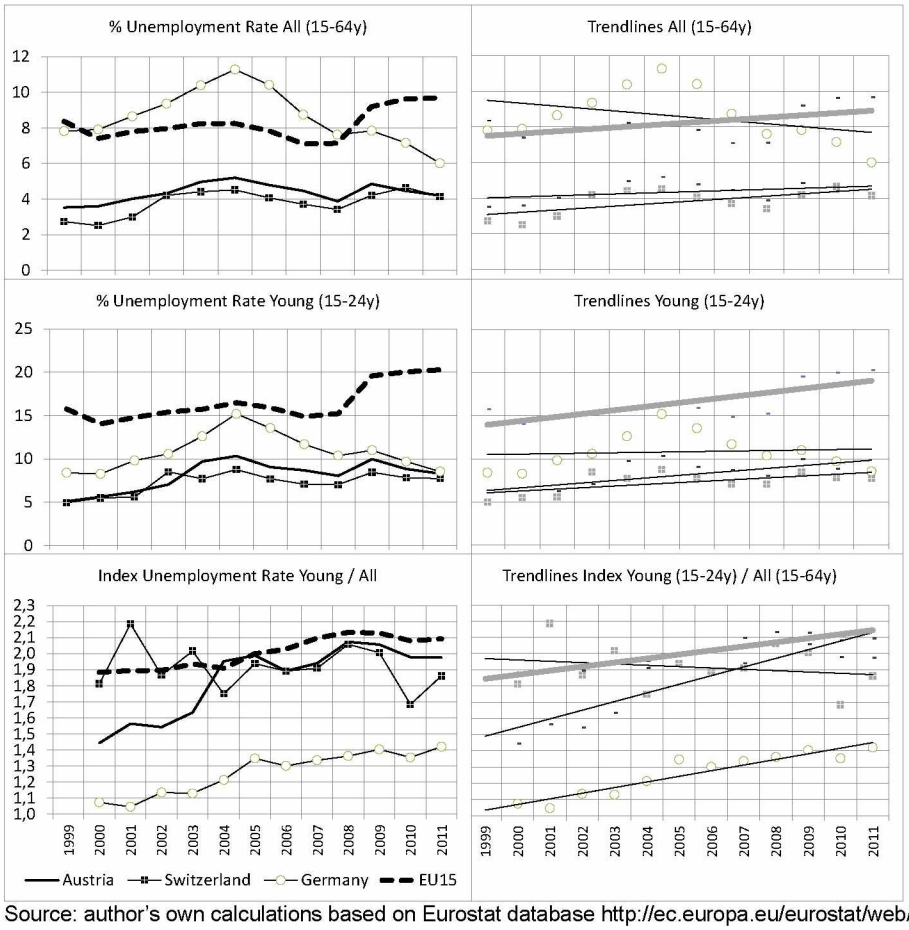
Source: author's own calculations based on OECD Education at a Glance 2012 Tab C5.2a doi: http://dx.doi.org/10.1787/888932667425

Conventional economic reasoning would expect overall unemployment to be driven by the overall economic situation/development. From this kind of reasoning the low youth unemployment in Austria and Switzerland would be a result of the overall economic situation, and not a result from apprenticeship, except one would assume that the improved overall economic situation would be caused by apprenticeship. This position, if it can be found to some extent, is processed rather among advocates of apprenticeship in the pedagogic or training related community than among economists. Even the approaches of 'coordinated capitalism' which strongly focus on apprenticeship as a substantial part of the coordinated model tend to see this as an element of a much wider and more complex amalgam of causal chains and mechanism, than giving apprenticeship the position of being a decisive factor.

Looking at Germany, where the given proportion would indicate that apprenticeship really lowers youth unemployment - and exactly this proportion is given as the decisive stylised fact by the OECD to sell apprenticeship as a solution for the serious youth labour market problems in the G20 area, and as Germany is the only apprenticeship country in this Group the result seems very suggestive; if the two other countries would be included, the chart would look like much less suggestive (OECD 2012b). The comparison of the three countries does indicate that the favourable relationship in Germany is not caused by a lowering of youth unemployment, but rather by higher overall unemployment, and its strong increase 1999–2005 (which was also reflected in youth unemployment).

Over time the proportion rather deteriorated in Germany as in Austria, only in Switzerland it improved from above the EU level to below the EU level despite of the crisis. In sum, this simple comparison poses many question marks to the assumption that apprenticeship would substantially improve the situation on the youth labour market. Seeking for experience to learn from, this analysis points to Switzerland as a positive case.

Fig. 5 Comparison of the Relations of Youth Unemployment and Overall Unemployment to the EU Average 1999–2011



Source: author's own calculations based on Eurostat database http://ec.europa.eu/eurostat/web/lfs/data/main-tables

2.3.3 Use of LMP Measures for Apprentices

Finally we challenge the observation from Austria that the channel from apprenticeship to LMP would be a main cause for lowering youth unemployment. This proposition is somehow relativized by the interim analysis which shows that it is even not so certain that apprenticeship actually lowers youth unemployment. For this purpose the OECD LMP database is used which poses some problems as information about Switzerland is incomplete; in earlier presentations in Austria doubts have also been

articulated about the data, so this analysis must be seen rather explorative. The results seem quite massive, so they might be a starting point for further consideration (figure 6).[12]

Basically the three countries (Switzerland only available until 2007) spend an above average proportion of gross domestic product (GDP) for active LMP, with an average proportion of the labour force being served in Austria and Germany, and a lower one in Switzerland; Austria shows a rising trend with particular increases on both indicators immediately after the crisis in 2009–10.

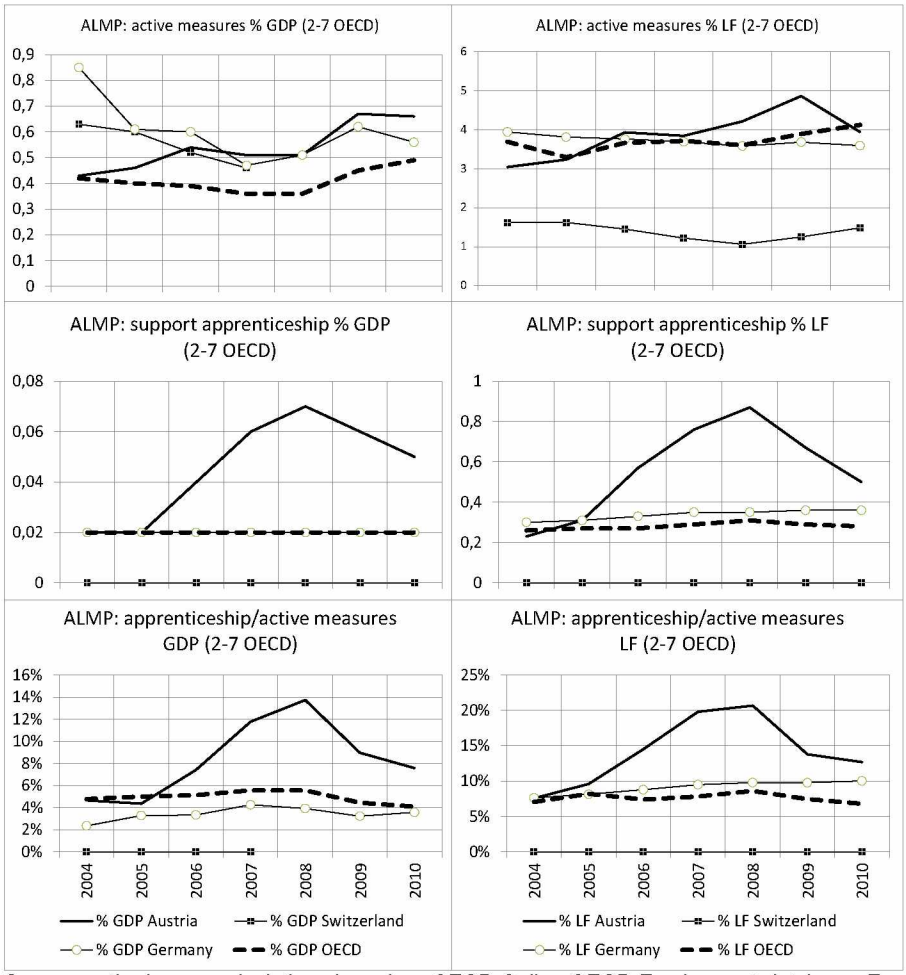
Looking at the information about the use of LMP for the support of apprenticeship the figures clearly show that the Austrian pattern cannot be generalised to the other countries. Thus the chain from employment via social security to LMP might be established significantly in Austria, but not to the same degree in Germany and Switzerland.

Asking why this relationship might be established so strongly in Austria, and not in the other two countries, the institutional structure and its relation to policy making might serve as an explanation, as the Austrian system is much more concentrated on a specific group with specific problems which can also be easily identified and communicated as a political problem: young people after compulsory school with relatively poor education results that do not have much other alternatives if they do not find access to apprenticeship. Compared to this situation, the apprenticeship systems in Germany and Switzerland are much more diversified and related to a much wider range of problems or challenges, which might have also a wider range of solutions to which LMP might not be the main (potential) solution - thus the same problem as in Austria might also be a part of the landscape, but finding other answers.

We therefore have to bear in mind, that the information is about specific LMP support *within* apprenticeship, other LMP measures are not covered, and not in a similar way identifiable by the available information. Thus the information points to a specific strategy, to take LMP measures *within* apprenticeship. Indeed, Austria has over decade developed a programme of institutional apprenticeship ('*Überbetriebliche Ausbildung*') that serves at the same time as an alternative path for young people who do not find an opening in an enterprise and as a stepping stone into an enterprise based apprenticeship. After years of piecemeal development and debate this programme has been regularly amended to the Apprenticeship Law. The basic concept is that the young people are employed with a training provider as apprentices with all their responsibilities and the wage paid from the unemployment insurance, and the enterprise training is provided via internships, which serve at the same time as a reality check for the young people and as a gateway to an enterprise based apprenticeship. Because of the payment of the (reduced) wages this programme is comparatively cost intensive which might contribute to the high expenditure shown above. In addition, various schemes of support for enterprises to employ apprentices are also available. This programme contrasts sharply to the German '*Übergangssystem*', which has been situated before access to apprenticeship, and has provided no credentials, thus rather stigmatizing the participants.

[12] Besides, the author has widely searched for information and data that would provide more comprehensive comparative information about how much emphasis is devoted to young people in LMP relative to adults. However, the available literature is mostly about the evaluation of punctual measures, and meta-analysis of this literature. Thus the analysis given in this section, and the data on which it is based cannot be easily compared or triangulated with more established knowledge.

Fig. 6 Provision of LMP Measures for Apprentices 2004–10 in Relation to GDP and Labour Force



Source: author's own calculations based on OECD Online OECD Employment database, Expenditures on and participants to labour market programmes Url: http://www.oecd.org/employment/onlineoecdemploymentdata base.htm#lmp

2.4 Conclusions and Reflections

The chapter has started by discussing some mechanisms of why apprenticeship systems might provide smother transition into employment and lower youth unemployment. Whilst there are many compelling arguments for this, there are also countervailing aspects and the simple empirical analysis shows that the effects on unemployment are not so obvious to demonstrate. Then the strong political priority given in Austria to combating problems on the youth labour market was explained, resulting in a strong increase of LMP measures during the crisis of 2008–09. These interventions indicate that if apprenticeship would have helped to hold youth unemployment low, it would not have borne the burden alone.

A main focus of the chapter is also to give some comparative measures that indicate the differences between these three superficially so similar systems. A fairly new statistical presentation of the transition periods of the 15 to 29 years old age groups that allows for combinations of the different positions (education, employment, out of labour force) gives a clear indication of the - in principle

since some time well known - overlaps of positions which are not visible if the positions are represented as if they would exclude each other.

As a result of this analysis, there is clear indication that the German and Swiss systems are much broader and much more diverse than the Austrian which is concentrated at the lower end of a tracked education system and caters for quite a homogenous group of young people. These different patterns also might explain the differences in the use of LMP. The analysis also shows substantially diverging indications between a description based on the national register data and those based on the European labour force survey. These differences are important for further research, but in particular for practice and policies, as the latter must cope with the different signals and messages resulting from them. In this sense they are both true, despite each catching different aspects of reality. A cross-classification between the two different data some time ago has shown, that the figures of unemployed they obtain are not so different, however, some half of the registered unemployed persons did not answer that they were seeking a job, and some half of the surveyed unemployed did say they were not registered (many of the latter might come from the younger age group which has much more unemployment problems according to the survey than according to the register. Attention of the Austrian policy makers is much oriented to the registered unemployed at the apprenticeship market - and youth unemployment after completing apprenticeship in the older group is not even regularly reported). This might explain that quite a creative solution has been developed for this group with the institutional apprenticeship programme.

Overall the analyses reinforce doubts about apprenticeship being such a strong help for reducing youth unemployment, and they also show that the Austrian policies cannot be seen as a kind of generalised pattern resulting from characteristics of apprenticeship but rather as a specific way responding to the specific Austrian shape of apprenticeship.

III. The political branding of apprenticeship into the 'Dual System' – Reflections about exporting the myth of employment transition.[13]

3.1 Introduction: 'systems' and 'models'

This chapter provides a critical review of the strengths and weaknesses of apprenticeship in Austria as compared to Germany and Switzerland, and asks some conceptual questions. The analysis starts with the high expectations about the role of apprenticeship in providing a smooth transition from education to employment, which have been recently reinforced through the economic and financial crisis, and looks more thoroughly at the mechanisms that might lead to the comparatively low youth unemployment in some countries with strong apprenticeship frameworks.

Related to the questions underlying this book about the use of myths and brands in educational discourses, a main interest of the analysis is lying in the question of how conceivable factual phenomena are translated into politically manageable expressions, in other words, how research might contribute to the creation of 'political objects'. Two aspects are included in these processes: first a phenomenon must be brought onto the political agenda, which means that it must be selected, prepared and transmitted by someone to catch the attention of a broader set of actors; second, the mostly diverse and complex factual phenomena must be translated into more simple and abstract concepts that can be manipulated in the political discourses.

Asking for the relationship between research and the broader political discourses we have to consider a parallel process: at the research level, feasible concepts are needed to be able to 'manipulate' the diverse realities in meaningful ways by descriptions, analysis, discussions, etc.; at the policy level also representations are needed to bring realities into political existence. The question concerning myths or brands is about the coincidence of concepts and representations at these different levels or fields of reality. Does the concept of apprenticeship or the 'Dual System' mean the same thing, when it is used in research or in policy/politics? How are meanings changed between the two frames? What is the role of research in creating political objects? Are research based concepts misused by policy/politics?

A specific question concerns the creation of 'models', i.e. simplified stylized representations of phenomena that are further processed in an 'objectified' way. In vocational education complex and diverse structures have emerged at the national level[14] within broader frameworks of education, originally closely related to work, reflecting the different sectors and practices in the economy, and in employment practices. We can broadly assume that the evolution of practices in work and occupations has always been accompanied by practices and reflections about how the practices in work and occupations can and should be learned and thought.

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[13] See Lassnigg, Lorenz (2015) The political branding of apprenticeship into the 'Dual System' – Reflections about exporting the myth of employment transition. in Anja Heikkinen & Lorenz Lassnigg, Eds. (2015) Myths and Brands in Vocational Education (Ch. Five). Cambridge Scholars Publishing, pp.78-98.

[14] Here the relationship between the development of the frameworks of public education and the building-up of the nation states since the 18th century has been an important factor of the development of structures at the national level. See the quantitative studies of the Stanford-group around John Meyer and Francisco Ramirez.

Outside the older practices of agriculture the guilds as the medieval organizations of work are somehow still paradigmatic that created the practices and institutions of the master, and of the steps of becoming a master. The upcoming trading and the industries have also created their practices of working and learning, to some degree destroying older practices, and to some extent adapting them. The ideologies and theories about education have always somehow interacted with work and employment, and to some point they were also explicitly applied to learning for work and occupations. Overall, these interactions and interrelations were highly contingent, and in varying degrees organisations and institutions emerged that typically started to cover some parts of the overall fields, and through time have spread more broadly across the fields of work and occupations.[15] The diversity of the world of work and occupations, and its development in time was accompanied by diverse practices of learning and teaching, and the diversity of education frameworks and practices interrelated in various ways with the practices in work and occupations. Through centuries broader frameworks of vocational education emerged, very differently influenced by policy/politics by diverse and scattered patterns. At some (late) point more comprehensive pedagogical reflections and political interventions concerning vocational education emerged (e.g., in German discourses the constitutional period of 'Berufspädagogik' is situated in the first half of the 20th century, with some turn away from pedagogical reasoning and towards economic and business reasoning in the second half).

At the end of the 20th century and around 2000, with more widespread comparative and historical analysis of vocational education 'modelling' started as a kind of specific practice geared in the first place to understanding. A key stage was the CEDFOP 2002 conference about history in comparative perspective, when W.D. Greinert proposed his influential modelling of 'European vocational training systems' to the wider international audience (Greinert 2002, 2004, 2005). He tried to underpin the concept of a 'system' as a permanent self-referential 'selective communication network' based on ideas of functional social differentiation, whereby to fulfil this criteria, vocational education must be differentiated sufficiently from school and from work. Thus neither work-based learning alone nor school-based learning alone does constitute a system, only the 'dual system' fulfils the criteria to operate as a subsystem (the others are termed models); enterprise based and school based learning operate within other subsystems, based on their logics (production and work vs. meritocracy). These different epistemological stances constitute problems of comparison, and – based on generic considerations about their emergence – a broad holistic picture is drawn about the embeddedness of vocational education into societal and economic structures.

> *"A society's values, norms, attitudes, convictions and ideals shape education systems, work organisation and occupational relationships as well as the more or less stable interaction between specific national employment training and other social subsystems such as general education and the various employment system paradigms."(Greinert 2002, p.18)*

In particular four basic dimensions are emphasised to explain the different structures of vocational education in Germany, France and Britain (see Fig.1):

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[15] If we take Austria as an example, we can see on the one hand the high share of agriculture until the first decades of the 20th century, and the small overall share of post-compulsory education, that emerged as a mass phenomenon quite recently. See also the qualitative historical studies by Richard Sennett about the culture of craftsmanship.

- work culture as the main generative concept,

- training regimes

- legitimating conceptions

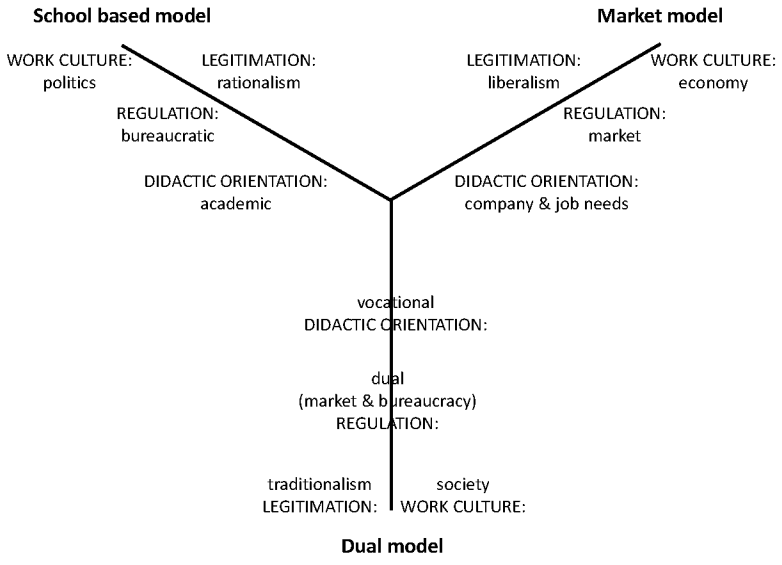
- learning orientations.

This methodology has constructed broad streamlined holistic models, which however, on the one hand have also included some degrees of mixtures or – in today's expression – hybrids at the level of the learning orientations.

> *"We believe that vocational, market and academic orientation can be considered as didactic principles in all European vocational training models, whatever the dominating specific structural or regulatory principle in the respective country might be." (Greinert 2002, p.18)*

On the other hand, the models are ascribed a high degree of historical longevity in the sense that adaptations and modifications have remained mainly in the course of the distinct models. From this kind of theorising a transplant of one model into another environment must be extremely unlikely.

Fig.1: Basic dimensions of the vocational training models proposed by W.-D. Greinert 2002



Source: own figure based on Greinert 2002.

In case of apprenticeship the attempts of policy transfer, or in a more tight expression, of 'export', have been appraised definitely unsuccessful during decades (e.g., Georg 2013, p.9; see also the contributions in Maurer/Gonon 2014).[16] Nevertheless, these attempts have never been stopped; on the contrary, they have rather been strongly increased recently, after the last financial and economic crisis of the late 2000s.

The conceptual approaches have changed in the new attempts, by applying much more loose definitions of apprenticeship, and a pragmatic a-theoretical methodology. In the conception of apprenticeship the two important dimensions of (i) a training contract according to the employment relation, and (ii) the combination of work-based learning with supportive school-based learning as definite part of the programme are considered differently. In some definitions the employment relation between the firm and the apprentice is considered a key element, other definitions emphasise more the combination of institutions and learning places (a main ingredient of the 'duality', or 'alternance'; see EC-DG 2012). The focus is on different specifications of the 'work-place-learning'-element, rather than on the tight institutional specifications at the levels of governance and industrial relations.

The analysis starts with an account of how apprenticeship has come to the big worldwide attention in recent times, and how the attempts for its spreading into new regions or countries are structured. What are the main arguments behind these political discourses? How is the working of this model conceived? Etc. A next step looks at what we know on the factual level about the functioning of apprenticeship and the transition to employment in the three continental countries of Austria, Germany, and Switzerland. How did they retain the low level of youth unemployment? How did other aspects of vocational education develop in these countries? The third step analyses the conditions for transfer of apprenticeship, and asks more directly the questions concerning myths and brands.

3.2 The 'Dual system' as a German brand to be exported globally

The main actor trying to export the Dual System is Germany, it is also the only country that uses officially this brand, and that has also abandoned the traditional concept of 'apprentice' as a kind of modernisation (officially changed into Azubi: Auszubildende) and apprenticeship (*Lehrlingsausbildung*, *Berufslehre*), which is still used in Austria and Switzerland.[17] For these purposes a strategic framework and a one-stop-shop (GOVET)[18] für international cooperation have been set up in Germany. Since decades initiatives for the 'export' of the German Dual System (GDS) prevailed, Stockmann (2014, p.264) mentions at least 40 countries where elements of the GDS or whole systems were attempted to transfer mainly since the 1980s; e.g., the 'Mubarak-Kohl-Initiative for Vocational Education, Training and Employment Promotion' 1994-2007 in Egypt,[19] or an agreement between CONALEP (the National College of Technical Professional Education and main institution responsible for VET in Mexico) and BIBB about a project for developing a system based on the GDS since 2009, that draws upon earlier initiatives by a large automobile firm since 1993, and including

[16] Georg (2013, p.9) summarizes his point as follows: "Das seit vielen Jahren immer wieder bekundete weltweite Interesse am „Import" des dualen Systems hat sich bisher nirgendwo in eine Transformation der heimischen Bildungs- und Arbeitsmarktstrukturen umsetzen lassen."

[17] See http://www.bmbf.de/en/17127.php

[18] See http://www.bibb.de/en/govet_2350.php

[19] Mubarak Kohl Initiative for Vocational Education, Training and Employment Promotion (MKI-vetEP)

suppliers since 1999 in Mexico.[20] Since 2001, the BMBF has supported marketing for "Training - Made in Germany" with the iMOVE (International Marketing of Vocational Education) initiative. Since 2012 these national initiatives have been shifted to the European level, with the set-up of a memorandum between Germany and six other countries (Spain, Greece, Portugal, Italy, Slovakia and Latvia), in association with the European Commission, to promote vocational education. The memorandum "includes many concrete measures for introducing a vocational education system based on Germany's model." (BMBF 2013). These initiatives are planned to be distributed more broadly at the European level due to the creation of a 'European Vocational Education Area', and: "In the long term, Germany is to become the export champion in the area of education services." (BMBF 2013).

The rationale for these kinds of export of the GDS is clearly the observation of low youth unemployment in Germany, that is expressively "attributed to the dual system of education and training, which is closely linked to industry and the job market [...] The particularly low rate of youth unemployment in Germany (7.9 per cent in May 2012) is largely ascribed to the German system of vocational training." (BMBF 2013). The same argument has been settled at the European level, by promoting the 'European Alliance for Apprenticeships (EAfA)' from July 2013:[21]

> *"Apprenticeships and work-based learning ease the transition from education and training to work, and evidence suggests that countries with a strong VET and apprenticeship system have lower levels of youth unemployment than countries without such systems." (EC-Education and Culture 2015)*

The iMOVE platform has since 2009 published a wide set of 'success stories' from all over the world providing public relations brochures about currently almost 100 specific examples and experiences, using local stakeholders for promotion.[22] Philipp Gonon (2014, p.241) in an appraisal of the long tradition of export attempts apodictically states that

> *"there is no country where such a model has successfully and lastingly been implemented on a large scale and as the main system." Moreover he states that current analysis 'clearly shows that there has been no comprehensive development of any Dual System. […] The approaches of the past have created organisations which still exist, although not always with their original function. […] the export attempts which have now been taken place over several decades must be considered a failure." (ibid., p. 251)*

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20 http://www.bibb.de/dokumente/pdf/stbpr_veranstaltung_2013_12_04_workbased_learning_in_europe_thomann_presentation.pdf

21 See http://ec.europa.eu/education/policy/vocational-policy/alliance_en.htm; see also the Declaration of the Social Partners and stakeholders (: http://ec.europa.eu/education/policy/vocational-policy/doc/alliance/joint-declaration_en.pdf and the Council Declaration (15 October 2013) http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/lsa/139011.pdf

22 See https://www.imove-germany.de/cps/rde/xchg/imove_projekt_international/hs.xsl/publications.htm? Stockmann (2014) gives a much more critical picture about the development since the 1980s.

In terms of the myth and brand argument, we can summarise these observation by saying that the stakeholders and promoters of the GDS have been very successful recently in branding their product at the European and international levels, based on the myth that GDS is responsible for the low youth unemployment in Germany, and that its export would bring about similar results in other countries. In parallel to the EU the OECD is also promoting GDS in particular in its initiatives for the G20 countries (OECD 2014; see also Steedman 2014). The conclusions state:

> *Apprenticeships have a key role to play in facilitating a better insertion of youth into formal employment. However, to successively achieve this, each country's apprenticeship programme should offer quality training in a range of occupations and sectors that make apprenticeships more attractive to young people and where their costs are equitably shared to ensure they are also attractive for employers. They should also be part of a comprehensive package of education and employment policies that tackle more general barriers to youth employment. (OECD 2014, p. 17)*

3.3 Disclosing the myth: (how) is apprenticeship causing low youth unemployment in the 'apprenticeship countries'?

Empirically there is some coincidence between established 'apprenticeship systems' and (relatively) low youth unemployment. This raises two questions: Is apprenticeship 'the cause' for this preferable situation? Can it be used as 'cure' against high youth unemployment?

The upper panel in fig.2, based on the two Eurostat definitions of youth unemployment[23] indicates that there is no unanimous relationship between a relatively high incidence of apprenticeship in an EU country according to the definition and measurement by Hilary Steedman (2012) with the size of youth unemployment. Rather there are four countries comprising high levels of apprenticeship at the very low end of unemployment, and there are four countries with apprenticeship at the medium or higher range of unemployment. Among the countries with low unemployment, there are also three countries that are not classified with high apprenticeship participation. So in fact there appears no relationship even superficially. Accordingly Steedman – on the contrary to the above cited political institutions – states clearly from the beginning in her analysis that apprenticeship cannot be used as a cure (see also the arguments put forward by Batliner 2014, p.301 in this direction, and the considerations by Georg 2013, p.9):

> *"While a positive relationship between apprenticeship and low youth unemployment can be observed over time, it would be misguided to see apprenticeship primarily as a „cure"*

[23] These two definitions/indicators are often misunderstood or confused in the debate:

- the mostly used *youth unemployment rate (UE-rate)* relates the job seeking young people to the labour force as only one part of a cohort that is available for employment;
- it is the more recently developed youth unemployment ratio (UE-ratio) that indicates the proportion of job seeking young people related to the full cohort.

Thus it is the second indicator that shows the percentage of all young people (in a certain age group) that is actually unemployed. The figure shows that the second indicator is grossly half of the first. This means that on the EU average a youth unemployment rate of about 20% means that in fact 10% of all young people are unemployed. We see also in the figure that the difference between the two indicators increases in the countries with a very high youth unemployment rate, in particular Spain and Greece. Here a UE-rate of above 50% means that about 20% of young people are actually unemployed.

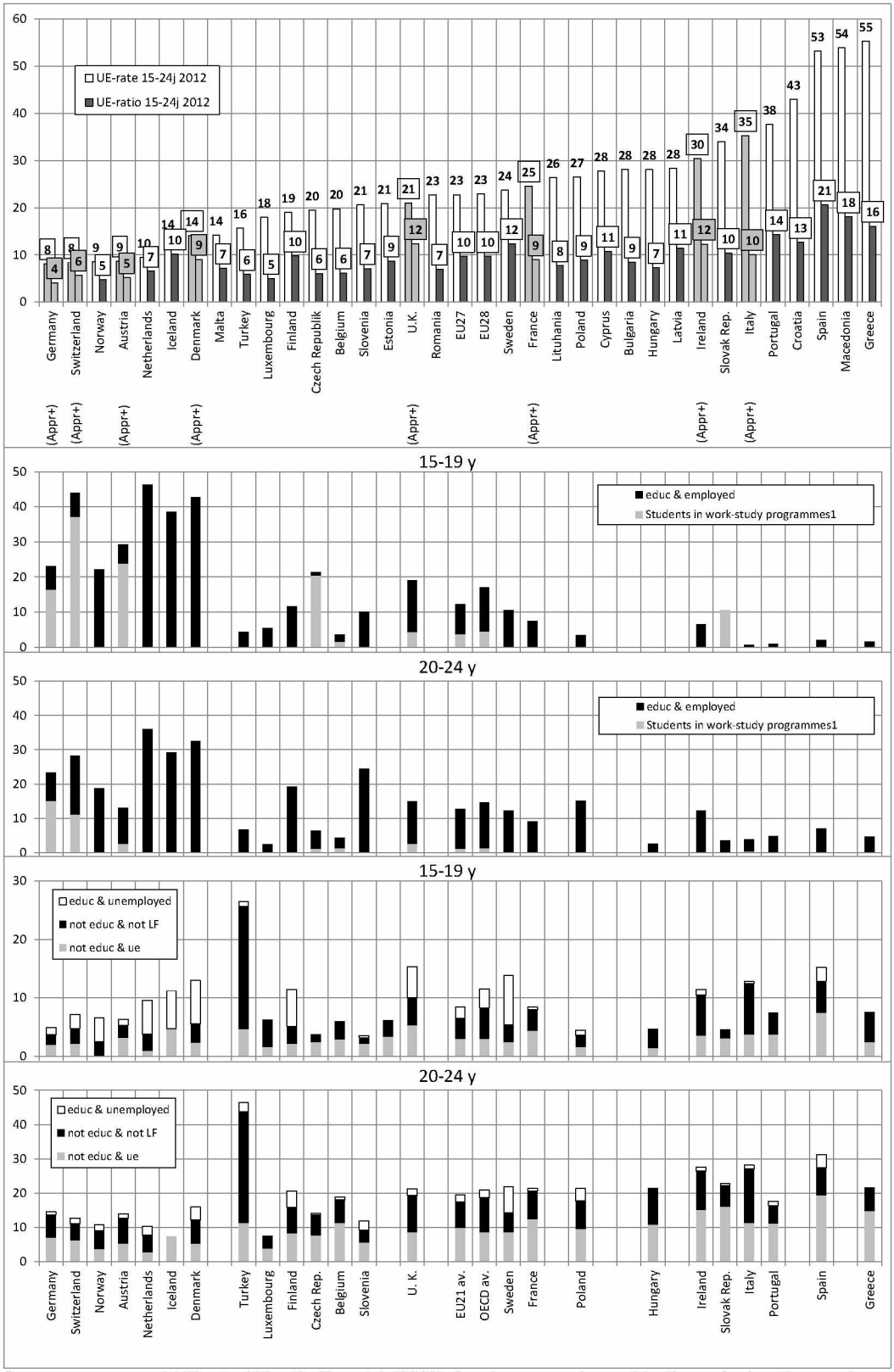
> *for high youth unemployment. Apprenticeship is first and foremost about skill development to the benefit of companies, their employees and the wider economy. Apprenticeship can accommodate a wide range of abilities and aptitudes because it accurately reflects the equally wide range of skills required in a modern economy. However, it is not a sufficient solution to improving the labour market transition of young people with poor school achievements or other disadvantages." (Steedman 2012, S.2)*

The lower panels in fig.2 show the interrelations of some statuses of young people according to the estimations by the OECD, broken down by a younger (15-19y) and an older (20-24y) group of young people. Here we are firstly confronted with the problems of identifying apprenticeship. The OECD estimations make a distinction between formal 'work-study-programmes' that include (or are identical with) apprenticeship and the factual coincidence of education and employment that does not (or at least need not) include formal relationships between education and work: this category simply includes students or pupils that work beneath studies. We see that the latter (informal) category is much higher on average (around 10% or more in both age groups) than the formal work-study programmes (around 5% in the younger group and almost disappearing in the older one), and we see quite big differences in classification between Steedman's apprenticeship typology and the OECD estimations (only the three 'classical apprenticeship countries Germany, Switzerland, and Austria) are clearly classified according to the expectations in both estimations (this points to the issues of definition tackled below).

The OECD estimates indicate that it is rather *employment arrangements*, whether formally embedded into work-study programmes or informally occurring, that are related to the incidence of unemployment. This is to some extent tautological, however, points to the fact, that the categories of being in education, and being employed or unemployed are clearly not exclusive: on average around 15% of young people are at the same time in education and employed or unemployed, that is higher than the EUROSTAT UE-ratio (10%).[24]

[24] The lower panels of fig.2 show the coincidence of being in education and unemployed (which is often ruled out by the administrative regulation about unemployment). This is quite low on average, however, in a number of countries (particularly Nordic countries and U.K.) around 10% of the younger age group are at the same time unemployed and in education (in the older age group this proportion is low, except Sweden).

Fig.2: Indicators of unemployment, compared to combinations of education and work



Source: upper panel UE-rate, UE-ratio Eurostat (2012); four lower panels combinations of education, work, and unemployment OECD-Education at a Glance (2012); (1) 'work-study programmes' resemble apprenticeships; classification of countries with high proportion of apprenticeships (Appr+) based on Steedman 2012.

If we consider these overlaps between education and employment, we can see that grossly the countries with high youth unemployment have low proportions of young people of either age group in apprenticeship or coincidental employment, and vice versa, countries with low unemployment have higher proportions of young people in these employment related categories. At the low end of unemployment the pattern is interesting: employment related statuses are much higher in Denmark, Iceland and the Netherlands that in the 'classical apprenticeship countries', which show different patterns:

- in Germany young people in employment related statuses are comparatively few (in both age groups around 25%), with the work-study-programmes dominating in both age groups (apprenticeship is still strong among the 20-24y. young people)

- in Switzerland the proportion is much higher (above 40% in the younger and almost 30% in the older age group), with apprenticeship dominating in the younger but not in the older age group

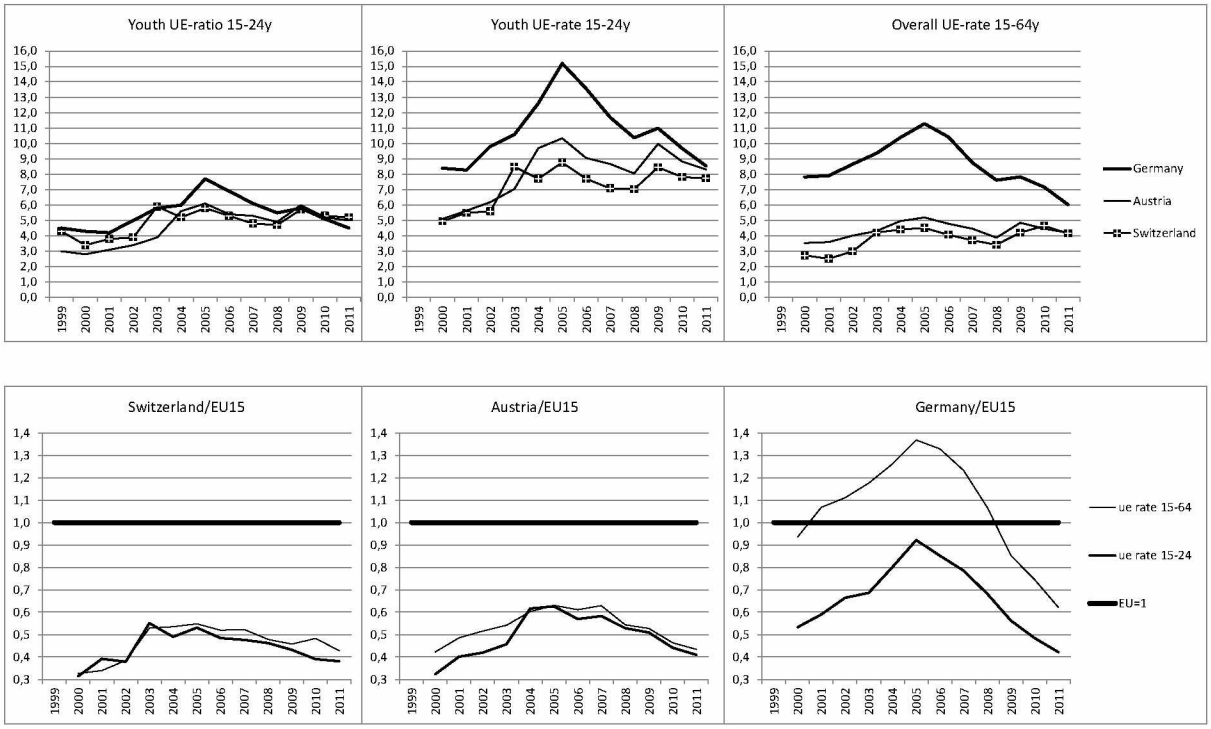
- in Austria the proportion is lying between Switzerland and Germany in the younger age group (around 30%) but lowest in the older age group (around 15%) with apprenticeship being concentrated clearly in the younger group.

From these patterns education can be rather expected to contribute to low youth unemployment in the *non-typical apprenticeship-countries* Denmark and Netherlands than in the typical ones (Germany, Switzerland, and Austria).

A closer look at the typical apprenticeship countries gives further insights to the question, whether apprenticeship contributes to low youth unemployment. The upper panel of fig.3 shows that the unemployment rates of young and adult people are lower in Switzerland and Austria than in Germany, with a quite substantial reduction in Germany since 2006 relative to the other two countries; the youth unemployment ratio fell below the others in Germany 2006-11. The lower panel compares the unemployment rate of young and adult people to the EU-15 average, and this comparison shows instructive patterns: in Switzerland and Austria the relative position of the youth unemployment rate is grossly at the same level as the relative position of overall unemployment; thus, relatively speaking, youth unemployment is not markedly lower than overall unemployment, and apprenticeship is not needed to explain low youth unemployment, which can be seen as a derivative of the overall economic development. The picture is different for Germany. Here the relative position of youth unemployment is substantially lower than that of overall unemployment; thus in this country apprenticeship could serve as an explanation for a lower level of relative youth unemployment. However, paradoxically the unemployment rate is higher in Germany than in the other two countries (in 2005 it almost reaches the EU-15 average). Here the marked decrease of unemployment *among young and adult people* since 2005 deserves explanation, which can rarely be given by apprenticeship, because such substantial changes in the system have not taken place during this period, and apprenticeship clearly cannot explain such a decrease of overall unemployment.

So according to the first question of causal influences, these indications underline the assertion, that the idea of the GDS being the main driver of low youth unemployment is probably a myth. The proposition, that apprenticeship could serve as a cure is undermined by the two other classical apprenticeship countries, where we have no causal indications for a reduction of youth unemployment by apprenticeship.

Fig.3: Comparison of apprenticeship countries Switzerland, Austria, Germany (unemployment indicators: youth UE-ratio, UE-rate, overall UE-rate)



Source: own calculations based on EUROSTAT data base

Here is not the space to analyse the causal questions further (for Austria see Lassnigg 2013; interesting more general arguments can also be found in Georg 2013). Rather we have to follow the argument of myth and brand. At the level of the policy rhetoric we can easily see that the established relationship between the GDS and youth unemployment lacks substance, and is based on very superficial empirical correspondences and analogies that do not stand a deeper questioning. If we take the notion of a myth literally, which somehow refers to a kind of deeper reflection of complex, sometimes mysterious issues of life or world that are not easy to understand, then the reasoning behind the GDS and employment is rather a trivialisation of this concept.

A big issue in understanding apprenticeship systems is their historically emerged complex and multifaceted construction at the edge of education and employment. Thus there is much discussion about the necessary elements of such a system, and their effects for its working. This is clearly relevant for understanding, but even more for transfer or export. If we take the above mentioned modelling by Greinert seriously, the idea of export is silly and absurd. The concept rather explains why

the historically emerging distinct holistic models have not been and cannot be transferred from one culture to the other. This kind of argument is also reinforced by other holistic approaches, e.g. the versions of varieties of capitalism that build on distinct societal and economic structures (liberal vs. coordinated market economies; Hall, Soskice 2001, also with a more pedagogical approach Winch 2000), or the distinct worlds of welfare capitalism (Esping-Andersen 1990), or the new approach of collective skills systems directed to the questions of the influences at the level of politics and policy making (Busemeyer, Trampusch 2011).

On the other pole of reasoning we find approaches that are trying to decompose apprenticeship systems to their key elements, which might be transferred separately or in a module-like fashion. An identification of the key elements is also needed in a holistic approach, if one wants to understand the system's mode of functioning. In case of export the 'product' must be specified in an operative way, so that at least the buyers know what they get. If this is not possible, the export metaphor is simply nonsense for any serious reasoning. In this case the question shifts to asking what serious people might have in mind when they use this metaphor. One answer would be that the sellers are trying to up value their (virtual) product discursively and propagandistically, without really wanting to sell it. This is exactly the logic of branding, in the extreme, to give high value to (almost) nothing (e.g., to make a lasting world brand out of some synthetic substance possible to drink), or to something which is difficult to understand (e.g., insuring for risks).

If we look at different de-composite understandings of apprenticeship, we see that the 'product' is all but clear. Different authors focus on different aspects of the complex structures. Batliner (2014) gives an instructive picture:

> *"[…] the individual […] meets the world of work and the world of education. […] The two worlds are different in nature, pursue different aims and set different priorities. […] together they are standing on the somewhat swampy ground of an unstable economic context that influences their performance and their relations." (ibid., p.295) "Even simple 'dual' training arrangements are more complex and complicated than centre-based training, due to unpredictable factors such as power games in business associations and the rather direct influence of the economic situation on the training."(ibid., p.300)*

The core characteristics of the dual system are differently constructed by some authors putting the combination of work and schooling, and thus the educational functions to the core (e.g., Gonon and his co-authors in Maurer, Gonon 2013), whereas other approaches put the economic aspects of the employment relation to the core, in particular the wage and the employment/training contract (e.g., ILO, OECD, Steedman). Other authors put the 'collective' dual governance structures to the fore that lead to political struggle and instability or diversity in the systems.

Concerning the causal processes behind low unemployment these different perspectives imply different kinds of explanations. The educational focus emphasises the longer term qualification outcomes and the productivity of the completers and a better skills matching, whereas the economic

focus on the employment relation points to the more short term processes of selection and skills utilisation. In the economic interpretation the conditions for the transfer and export are different, as not only education and training issues are involved but also the industrial relations must be organised accordingly. „The role of initial VET is dependent on the context of labour market regulation and the structure of the economy." (OECD, 2010, S.29) In the Austrian and German case the employment relation is strongly developed, and embedded into social security and labour market policy. Access to apprenticeship is a key political issue, and the market is continuously monitored. If imbalances occur, political measures are set in place to reduce unemployment. This mechanism is clearly in place in Austria (Lassnigg 2013), however, to some degree neglected in policy discourses. In Germany the 'transition system' has also absorbed many applicants on the apprenticeship market. The longer term qualification effects are much more difficult to prove. In Switzerland the returns during the apprenticeship period are on average positive, so many firms can reap the returns to their early investments into apprentices already before the end of the contract.

According to this interpretation the institutional embeddedness of apprenticeship into formal employment, and the related labour market policy interventions are the most important factors influencing youth unemployment. However, interestingly this aspect is not mentioned in the analyses about transfer and export provided in Maurer, Gonon (2014). The factors constituting the employment relation are not even mentioned in the structuration of the apprenticeship system in these analyses (see ANNEX).

3.4 Conclusions: myths of systems and models?

The analysis has shown on the one hand attempts of branding the German Dual System of apprenticeship for worldwide export, with several influential actors at the international level (e.g., EU, OECD, G20) intensely supporting these attempts. The myth behind the establishment of the GDS brand is that it would cure youth unemployment, which is not so sure, as always with myths.

On the other hand, two conceptions of apprenticeship exist that interpret the conditions for its establishment and transfer differently. One sees a complex holistic system that has historically emerged and is tightly embedded in the broader environment of industrial relations and work culture; the other interpretation sees a de-composite conglomerate of elements which might be pragmatically implemented in a modular way in different compositions.

From the latter pragmatic view the holistic models or systems can be asserted as another kind of myth that might reify the apprenticeship model to a mysterious structure difficult to understand and impossible to transfer. The pragmatic approach has shifted the attention from the dual system to a much more loose conception of work-based learning, which however might lack the employment relation as main ingredient being candidate providing for lowering youth unemployment and setting the linkage to labour market policy and social security.

ANNEX: Alternative definitions of apprenticeship

Gonon 2014, criteria, generalised	BMZ, key characteristics, DE (cf. Stockmann 2014)	Batliner 2014, framework, essential characteristics (CH)	ILO 1939, 1962, research 2010	Steedman 2012	INAP Memorandum, Deitmer et al. 2013
LEARNING SITES Company, readiness School, 2'nd pillar		[Practical training expensive; quality essential] Places of learning (dual, trial), practice over theory	training „systematic", follows predefined plan ('39) based in work place, supervised by employer ('39) off-the-job educ-training ('10)	Workplace based Programme of training On-the-job training Off-the-job training	Cost-benefit for company Work context constitutive Cooperation learning venues
LAW, STATE Law, necessary framework	National standards Qualified VET staff		established standards for a recognized occupation ('62) long-term training ('62) external regulation of training standards in & outside workplace ('10)	Legislative framework Formal assessment Recognized certification Fixed duration	Legal framework Legal status apprentices Time scale
GOVERNANCE, ACTORS Governance, social partners	Cooperation government-industry	Private sector-state cooperation Political structure, subsidiarity, corporatism (Fr) [Disrespect and mistrust]			Cooperation of actors Strategic and operational functions Innovation strategies
			governed by a contract between apprentice and employer ('39)	**Wage**	
VOCATIONS Vocational practice, professionalism	Learning work process		fundamental aim is learning a trade/acquiring a skill ('39)		methods curriculum development/ Occupational field/ Shaping one's work/ Core occupations/ Sustainable occupational profiles/ Open dynamic occ.profiles/ Occupational identity/ Continuing prof.development
Knowledge, science related	**Research, consultancy**				**Vocational disciplines**
FORMAL EDUCATION Meritocracy, integration		LLL, step in career, access to tertiary education Vocational counselling at secondary school [positive future concerns] [Career perspectives, not last resort] Decentralised formal education, local managing skills (Fr)	intended for young people ('39)		Integration in H.E.structure
		Valuing manual skills, apprenticeship desirable (Fr)			
		Organised and regulated economy, market barriers (Fr)			

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ANNEX I Comparative Indicators education and youth labour market

Content

A 1: Youth in education, employment and labour market 2004-2012(11), absolute figures

15-19 years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2004-07	2010-12(11)
Population	484771	488087	492738	497839	501117	501647	498402	492093	485740	490859	492078
Labour force	192437	190854	192708	196480	195529	191092	187347	184084	178987	193120	183473
Employment	182890	180932	183728	187963	187016	181194	178147	175438	170572	183878	174719
Unempl.stock	9547	9922	8980	8517	8513	9898	9200	8646	8415	9242	8754
Unempl.incidence	58078	60359	58530	56522	57542	59226	57897	56353	53886	58372	56045
Unempl.inflow	57402	58004	57258	55534	56724	58751	57705	54815	52808	57050	55109
Unempl.outflow	55603	55267	57065	55341	54301	57506	57297	53922	51978	55819	54399
ALMPtr.stock	9540	10882	12304	11974	11548	13973	15903	14746	14025	11175	14891
ALMPtr.duration*	132	143	140	156	154	154	170	172	157	143	166
ALMPtr.inflow	28676	28928	34452	29373	29188	36477	35898	32415	34713	30357	34342
ALMP tr.outflow	24066	26518	29842	26664	25726	29749	32356	30198	30683	26773	31079
Appr. (all)	119077	122378	125961	129823	131880	131676	129899	128078	125228	124310	127735
Appr.seekers (all)	5375	6156	6099	5689	5695	5944	5752	5504	5531	5830	5596
Appr.places (all)	2356	2900	3611	3546	3633	3279	3431	3650	3824	3103	3635
Appr.beginners	36763	38630	40032	41180	40517	39131	38988	38485	36980	39151	38151
Appr.1st y.beg.	33734	35598	36606	37886	36905	35824	35774	35295	33994	35956	35021
Population 16y	96673	97691	98123	100006	100904	100083	98268	95075	94476	98123	95940
Part time school apprentices (all)	125000	128300	133600	136200	140400	140300	137900	134300		130775	136100
Full time school UPSEC total (all)	315900	320100	322800	323800	322600	327900	326100	325900		320650	326000
Fts low/medium l	80600	79300	77300	76500	74600	76400	72400	70600		78425	71500
Fts upper l	217700	223200	226500	228600	229300	231200	232300	234300		224000	233300
Fts health occ.	17600	17600	19000	18700	18700	20300	21400	21000		18225	21200
TERT+POSTSEC (15-19y)	19736	19668	19818	20586	20988	22707	23328	23549		19952	23439
20-24 years											
Population	516052	525275	524196	520057	519599	520464	521233	526801	534758	521395	527597
Labour Force	343174	347781	347824	349204	348385	341290	338894	346195	352611	346996	345900
Employment	313973	316135	318709	322580	322829	308280	308010	315994	320731	317849	314912
Unempl.stock	29201	31646	29115	26624	25556	33010	30884	30201	31880	29147	30988
Unempl.incidence	152262	162687	156279	149504	150451	172124	165774	162108	166231	155183	164705
Unempl.inflow	154601	160199	159299	150857	152842	171199	167158	162665	166777	156239	165533
Unempl.outflow	168658	173982	179854	170572	165619	190581	190555	180209	183933	173267	184899
ALMPtr. Stock	7720	7954	9425	8020	7748	10882	12113	10398	10996	8280	11169
ALMPtr.duration*	84	86	86	90	92	90	100	98	90	87	96
ALMPtr. Inflow	34446	34046	41046	32662	31525	46631	44634	38507	46045	35550	43062
ALMPtr. Outflow	32273	33108	39260	32501	30142	41290	43844	38800	43367	34286	42004
TERT+POSTSEC (20-24y)	102401	103436	103677	101567	101774	109185	112141	115636		102770	113889
SCHOOL EDUCATION	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12		04/5-07/8	10/11-11/12
Ed UPPER SEC	440900	448400	456400	460000	463000	468200	464000	460200		451425	462100
Pts apprentices	125000	128300	133600	136200	140400	140300	137900	134300		130775	136100
Fts total (9-13)	315900	320100	322800	323800	322600	327900	326100	325900		320650	326000
Fts low+med+hlth	98200	96900	96300	95200	93300	96700	93800	91600		96650	92700
Prep.school (9)	*21800*	*22300*	*21400*	*21300*	*20600*	*19300*	*18800*	*18000*		*21700*	*18400*
Med.lev.VET	*58800*	*57000*	*55900*	*55200*	*54000*	*57100*	*53600*	*52600*		*56725*	*53100*
Health schools	*17600*	*17600*	*19000*	*18700*	*18700*	*20300*	*21400*	*21000*		*18225*	*21200*
Fts upper level	217700	223200	226500	228600	229300	231200	232300	234300		224000	233300
Academic	*76700*	*80200*	*82800*	*83600*	*84000*	*83800*	*84200*	*86000*		*80825*	*85100*
VET coll+teach	*141000*	*143000*	*143700*	*145000*	*145300*	*147400*	*148100*	*148300*		*143175*	*148200*

Source: BMASK Bali web (population, employment, unemployment, ALMP, apprenticeship), Statistics Austria, BMUKK, BMWF data warehouse (education); *ALMP training duration: days estimated

A 2: Youth in education, employment and labour market 2004-2012(11), % of population

15-19 years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2004-07	2010-12(11)
Population	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Labour force	40%	39%	39%	39%	39%	38%	38%	37%	37%	39%	37%
Employment	38%	37%	37%	38%	37%	36%	36%	36%	35%	37%	36%
Unempl.stock	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Unempl.incidence	12%	12%	12%	11%	11%	12%	12%	11%	11%	12%	11%
Unempl.inflow	12%	12%	12%	11%	11%	12%	12%	11%	11%	12%	11%
Unempl.outflow	11%	11%	12%	11%	11%	11%	11%	11%	11%	11%	11%
ALMPtr.stock	2%	2%	2%	2%	2%	3%	3%	3%	3%	2%	3%
ALMPtr.duration*											
ALMPtr.inflow	6%	6%	7%	6%	6%	7%	7%	7%	7%	6%	7%
ALMP tr.outflow	5%	5%	6%	5%	5%	6%	6%	6%	6%	5%	6%
Appr. (all)	25%	25%	26%	26%	26%	26%	26%	26%	26%	25%	26%
Appr.seekers (all)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Appr.places (all)	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Appr.beginners	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Appr.1st y.beg.	7%	7%	7%	8%	7%	7%	7%	7%	7%	7%	7%
Population 16y	20%	20%	20%	20%	20%	20%	20%	19%	19%	20%	19%
Part time school	26%	26%	27%	27%	28%	28%	28%	27%		27%	28%
Full time school	65%	66%	66%	65%	64%	65%	65%	66%		65%	66%
Fts low/medium l	17%	16%	16%	15%	15%	15%	15%	14%		16%	15%
Fts upper l	45%	46%	46%	46%	46%	46%	47%	48%		46%	47%
Fts health occ.	4%	4%	4%	4%	4%	4%	4%	4%		4%	4%
TERT+POSTSEC	4%	4%	4%	4%	4%	5%	5%	5%		4%	5%
20-24 years											
Population	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Labour Force	66%	66%	66%	67%	67%	66%	65%	66%	66%	67%	66%
Employment	61%	60%	61%	62%	62%	59%	59%	60%	60%	61%	60%
Unempl.stock	6%	6%	6%	5%	5%	6%	6%	6%	6%	6%	6%
Unempl.incidence	30%	31%	30%	29%	29%	33%	32%	31%	31%	30%	31%
Unempl.inflow	30%	30%	30%	29%	29%	33%	32%	31%	31%	30%	31%
Unempl.outflow	33%	33%	34%	33%	32%	37%	37%	34%	34%	33%	35%
ALMPtr. Stock	1%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%
ALMPtr.duration*											
ALMPtr. Inflow	7%	6%	8%	6%	6%	9%	9%	7%	9%	7%	8%
ALMPtr. Outflow	6%	6%	7%	6%	6%	8%	8%	7%	8%	7%	8%
TERT+POSTSEC	20%	20%	20%	20%	20%	21%	22%	22%		20%	22%

SCHOOL EDUCATION	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12		04/5-07/8	10/11-11/12
Ed UPPER SEC	91%	92%	93%	92%	92%	93%	93%	94%		92%	94%
Pts apprentices	26%	26%	27%	27%	28%	28%	28%	27%		27%	28%
Fts total (9-13)	65%	66%	66%	65%	64%	65%	65%	66%		65%	66%
Fts low+med+hlth	20%	20%	20%	19%	19%	19%	19%	19%		20%	19%
Prep.school (9)	4%	5%	4%	4%	4%	4%	4%	4%		4%	4%
Med.lev.VET	12%	12%	11%	11%	11%	11%	11%	11%		12%	11%
Health schools	4%	4%	4%	4%	4%	4%	4%	4%		4%	4%
Fts upper level	45%	46%	46%	46%	46%	46%	47%	48%		46%	47%
Academic	16%	16%	17%	17%	17%	17%	17%	17%		16%	17%
VET coll+teach	29%	29%	29%	29%	29%	29%	30%	30%		29%	30%

Source: BMASK Bali web (population, employment, unemployment, ALMP, apprenticeship), Statistics Austria, BMUKK, BMWF data warehouse (education); *ALMP training duration: days estimated

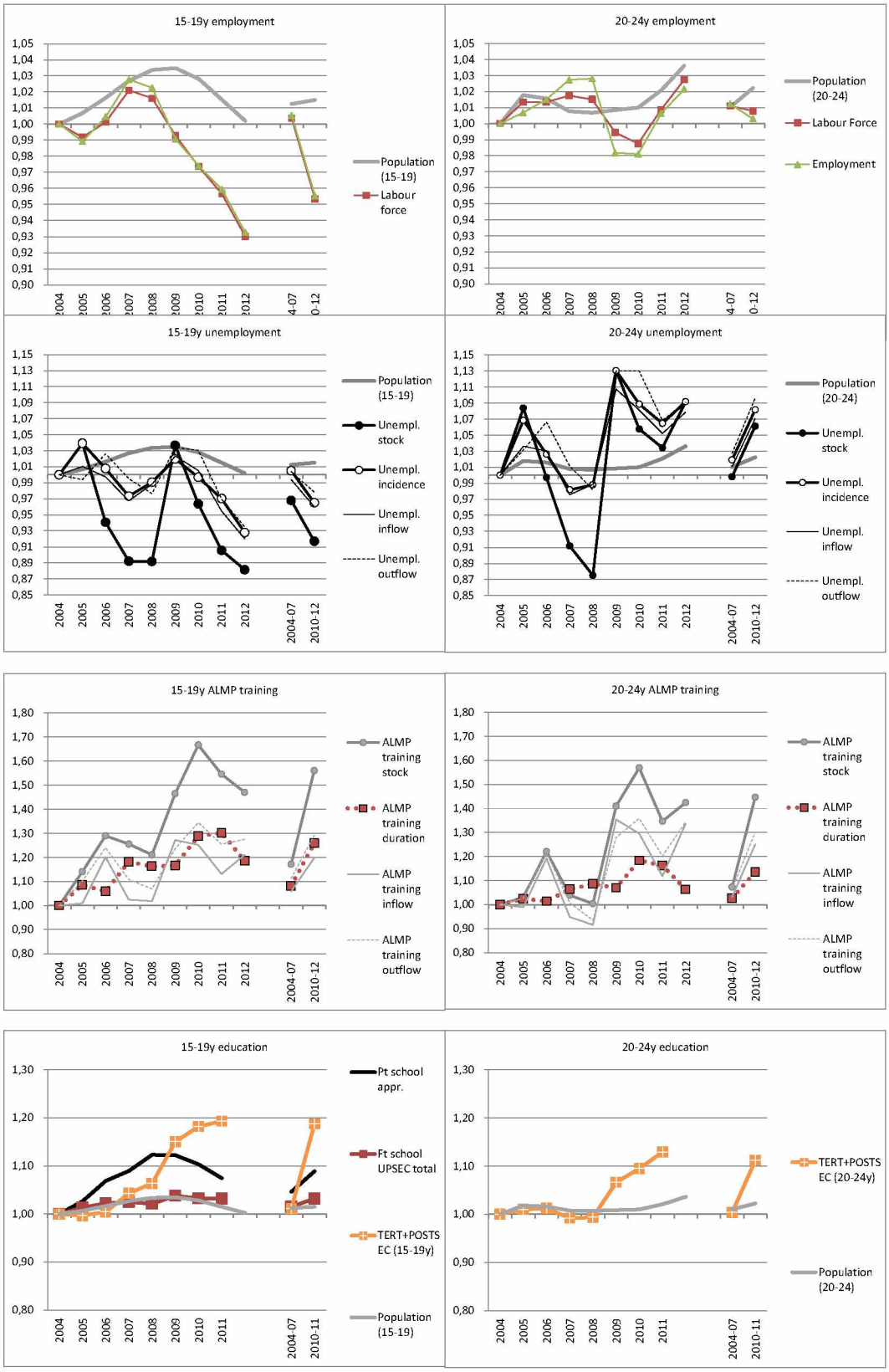
A 3: Youth in education, employment and labour market 2004-2012(11), Index 2004=1

15-19 years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2004-07	2010-12(11)
Population	1,00	1,01	1,02	1,03	1,03	1,03	1,03	1,02	1,00	1,01	1,02
Labour force	1,00	0,99	1,00	1,02	1,02	0,99	0,97	0,96	0,93	1,00	0,95
Employment	1,00	0,99	1,00	1,03	1,02	0,99	0,97	0,96	0,93	1,01	0,96
Unempl.stock	1,00	1,04	0,94	0,89	0,89	1,04	0,96	0,91	0,88	0,97	0,92
Unempl.incidence	1,00	1,04	1,01	0,97	0,99	1,02	1,00	0,97	0,93	1,01	0,97
Unempl.inflow	1,00	1,01	1,00	0,97	0,99	1,02	1,01	0,95	0,92	0,99	0,96
Unempl.outflow	1,00	0,99	1,03	1,00	0,98	1,03	1,03	0,97	0,93	1,00	0,98
ALMPtr.stock	1,00	1,14	1,29	1,26	1,21	1,46	1,67	1,55	1,47	1,17	1,56
ALMPtr.duration*	1,00	1,09	1,06	1,18	1,16	1,17	1,29	1,30	1,19	1,08	1,26
ALMPtr.inflow	1,00	1,01	1,20	1,02	1,02	1,27	1,25	1,13	1,21	1,06	1,20
ALMP tr.outflow	1,00	1,10	1,24	1,11	1,07	1,24	1,34	1,25	1,27	1,11	1,29
Appr. (all)	1,00	1,03	1,06	1,09	1,11	1,11	1,09	1,08	1,05	1,04	1,07
Appr.seekers (all)	1,00	1,15	1,13	1,06	1,06	1,11	1,07	1,02	1,03	1,08	1,04
Appr.places (all)	1,00	1,23	1,53	1,51	1,54	1,39	1,46	1,55	1,62	1,32	1,54
Appr.beginners	1,00	1,05	1,09	1,12	1,10	1,06	1,06	1,05	1,01	1,06	1,04
Appr.1st y.beg.	1,00	1,06	1,09	1,12	1,09	1,06	1,06	1,05	1,01	1,07	1,04
Population 16y	1,00	1,01	1,01	1,03	1,04	1,04	1,02	0,98	0,98	1,02	0,99
Part time school	1,00	1,03	1,07	1,09	1,12	1,12	1,10	1,07		1,05	1,09
Full time school	1,00	1,01	1,02	1,03	1,02	1,04	1,03	1,03		1,02	1,03
Fts low/medium l	1,00	0,98	0,96	0,95	0,93	0,95	0,90	0,88		0,97	0,89
Fts upper l	1,00	1,03	1,04	1,05	1,05	1,06	1,07	1,08		1,03	1,07
Fts health occ.	1,00	1,00	1,08	1,06	1,06	1,15	1,22	1,19		1,04	1,20
TERT+POSTSEC (15-	1,00	1,00	1,00	1,04	1,06	1,15	1,18	1,19		1,01	1,19
20-24 years											
Population	1,00	1,02	1,02	1,01	1,01	1,01	1,01	1,02	1,04	1,01	1,02
Labour Force	1,00	1,01	1,01	1,02	1,02	0,99	0,99	1,01	1,03	1,01	1,01
Employment	1,00	1,01	1,02	1,03	1,03	0,98	0,98	1,01	1,02	1,01	1,00
Unempl.stock	1,00	1,08	1,00	0,91	0,88	1,13	1,06	1,03	1,09	1,00	1,06
Unempl.incidence	1,00	1,07	1,03	0,98	0,99	1,13	1,09	1,06	1,09	1,02	1,08
Unempl.inflow	1,00	1,04	1,03	0,98	0,99	1,11	1,08	1,05	1,08	1,01	1,07
Unempl.outflow	1,00	1,03	1,07	1,01	0,98	1,13	1,13	1,07	1,09	1,03	1,10
ALMPtr. Stock	1,00	1,03	1,22	1,04	1,00	1,41	1,57	1,35	1,42	1,07	1,45
ALMPtr.duration*	1,00	1,02	1,01	1,06	1,09	1,07	1,18	1,16	1,06	1,03	1,14
ALMPtr. Inflow	1,00	0,99	1,19	0,95	0,92	1,35	1,30	1,12	1,34	1,03	1,25
ALMPtr. Outflow	1,00	1,03	1,22	1,01	0,93	1,28	1,36	1,20	1,34	1,06	1,30
TERT+POSTSEC (20-	1,00	1,01	1,01	0,99	0,99	1,07	1,10	1,13		1,00	1,11

SCHOOL EDUCATION	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	04/5-07/8	10/11-11/12
Ed UPPER SEC	1,00	1,02	1,04	1,04	1,05	1,06	1,05	1,04	1,02	1,05
Pts apprentices	1,00	1,03	1,07	1,09	1,12	1,12	1,10	1,07	1,05	1,09
Fts total (9-13)	1,00	1,01	1,02	1,03	1,02	1,04	1,03	1,03	1,02	1,03
Fts low+med+hlth	1,00	0,99	0,98	0,97	0,95	0,98	0,96	0,93	0,98	0,94
Prep.school (9)	1,00	1,02	0,98	0,98	0,94	0,89	0,86	0,83	1,00	0,84
Med.lev.VET	1,00	0,97	0,95	0,94	0,92	0,97	0,91	0,89	0,96	0,90
Health schools	1,00	1,00	1,08	1,06	1,06	1,15	1,22	1,19	1,04	1,20
Fts upper level	1,00	1,03	1,04	1,05	1,05	1,06	1,07	1,08	1,03	1,07
Academic	1,00	1,05	1,08	1,09	1,10	1,09	1,10	1,12	1,05	1,11
VET coll+teach	1,00	1,01	1,02	1,03	1,03	1,05	1,05	1,05	1,02	1,05

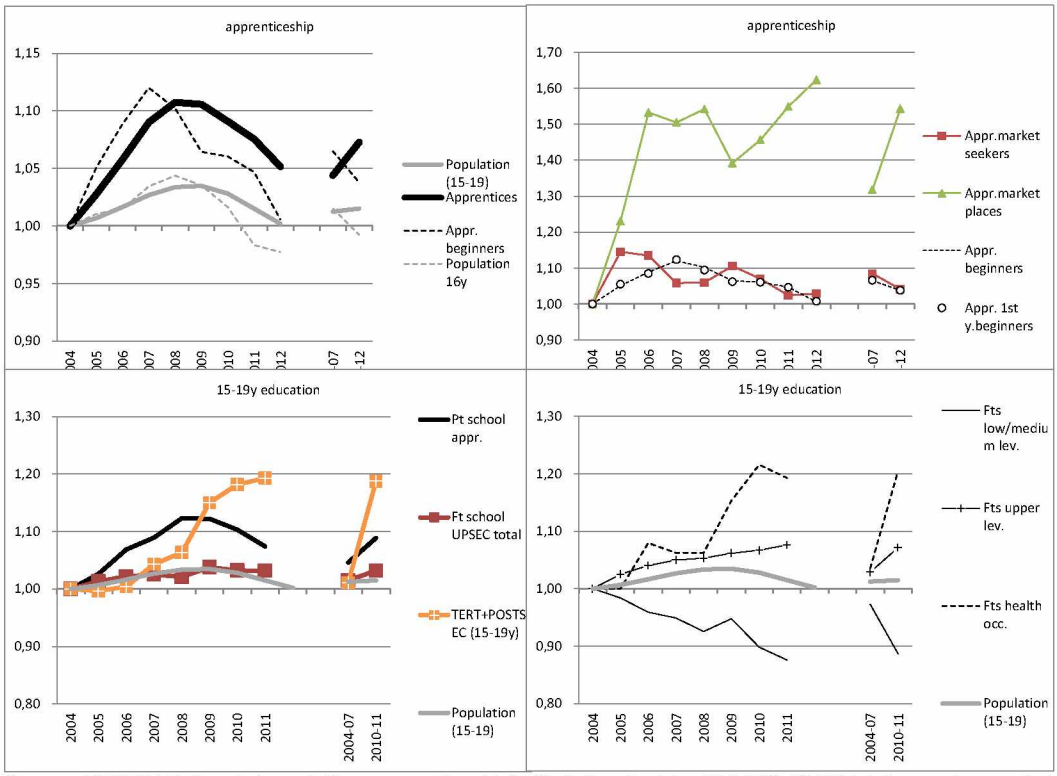
Source: BMASK Bali web (population, employment, unemployment, ALMP, apprenticeship), Statistics Austria, BMUKK, BMWF data warehouse (education); *ALMP training duration: days estimated

A 4: Youth in education, employment and labour market 2004-2012(11), Index 2004=1



Source: BMASK Bali web (population, employment, unemployment, ALMP, apprenticeship), Statistics Austria, BMUKK, BMWF data warehouse (education); *ALMP training duration: days estimated

A 5: Apprenticeship, apprenticeship market, education by levels 2004-12(11), Index 2004=1



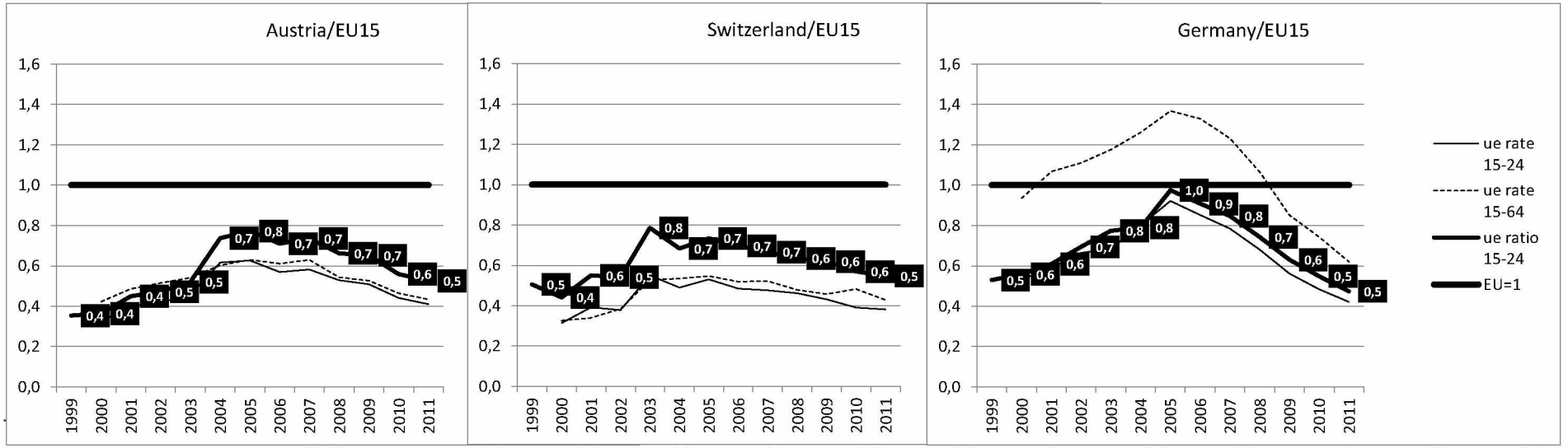
Source: BMASK Bali web (population, apprenticeship), Statistics Austria, BMUKK, BMWF data warehouse (education); *ALMP training duration: days estimated

A 6: Support of Apprenticeship 2004-11, absolute and %

ABSOLUTE	2004	2005	2006	2007	2008	2009	2010	2011	2012	2004-07	2010-12(11)
Pop. (15-19y)	484771	488087	492738	497839	501117	501647	498402	492093	485740	490859	492078
Apprenticeships	119077	122378	125961	129823	131880	131676	129899	128078	125228	124310	127735
Appr.beginners	36763	38630	40032	41180	40517	39131	38988	38485	36980	39151	38151
					Support of regular apprenticeships						
stock	3860	6534	17027	28315	30817	20586	11646	6905		13934	9276
inflow	8468	18036	30861	45117	42538	31892	21436	13899		25621	17668
Institutional apprenticeships											
inflow	14228	14550	16489	16220	17279	18416	22940	29552		15372	26246
Sum infl.reg+inst	22696	32586	47350	61337	59817	50308	44376	43451		40992	43914
					% of population 15-19y: Support of regular apprenticeships						
Stock	1%	1%	3%	6%	6%	4%	2%	1%		3%	2%
Inflow	2%	4%	6%	9%	8%	6%	4%	3%		5%	4%
Institutional apprenticeships											
Inflow	3%	3%	3%	3%	3%	4%	5%	6%		3%	5%
Sum infl.reg+inst	5%	7%	10%	12%	12%	10%	9%	9%		8%	9%
					% of apprenticeships: Support of regular apprenticeships						
Stock	3%	5%	14%	22%	23%	16%	9%	5%		11%	7%
Inflow	7%	15%	25%	35%	32%	24%	17%	11%		21%	14%
					Institutional apprenticeships						
Inflow	12%	12%	13%	12%	13%	14%	18%	23%		12%	21%
Sum infl.reg+inst	19%	27%	38%	47%	45%	38%	34%	34%		33%	34%

Source: BMASK 2012, Aktive Arbeitsmarktpolitik in Österreich, Tab.23 and 24, pp.185 and 186.

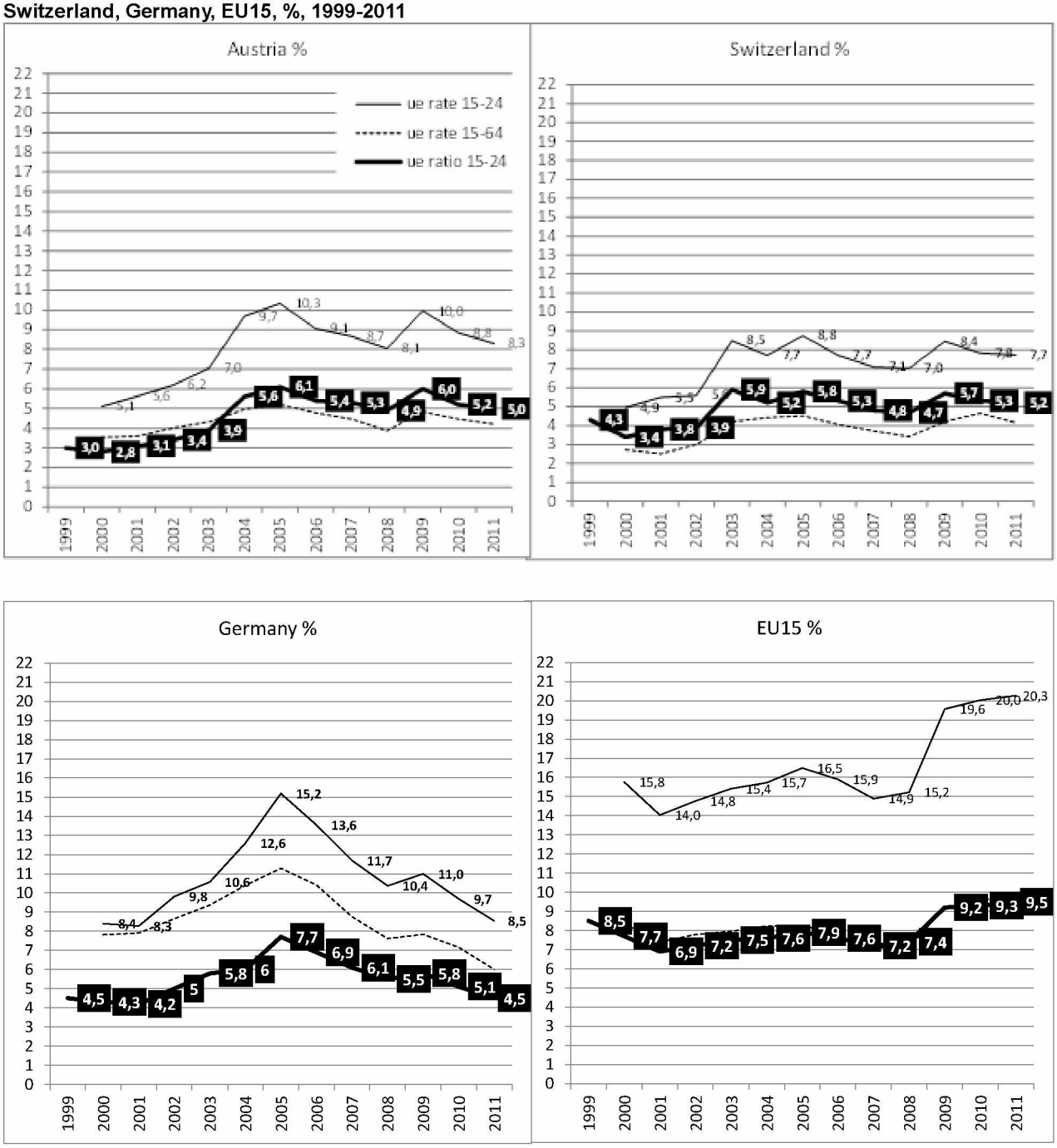
A 7: Unemployment rates 15-24y and 15-64y, and unemployment/population ratio 15-24y, Austria, Switzerland, Germany, Index country/EU15, 1999-2011



	ue rate 15-64		3,5	3,6	4,0	4,3	5,0	5,2	4,8	4,5	3,9	4,8	4,5	4,2
	ue ratio 15-24	3,0	2,8	3,1	3,4	3,9	5,6	6,1	5,4	5,3	4,9	6,0	5,2	5,0
Germany	ue rate 15-24		8,4	8,3	9,8	10,6	12,6	15,2	13,6	11,7	10,4	11,0	9,7	8,5
	ue rate 15-64		7,8	7,9	8,7	9,4	10,4	11,3	10,4	8,7	7,6	7,8	7,2	6,0
	ue ratio 15-24	4,5	4,3	4,2	5,0	5,8	6,0	7,7	6,9	6,1	5,5	5,8	5,1	4,5
Switzerland	ue rate 15-24		4,9	5,5	5,6	8,5	7,7	8,8	7,7	7,1	7,0	8,4	7,8	7,7
	ue rate 15-64		2,7	2,5	3,0	4,2	4,4	4,5	4,1	3,7	3,4	4,2	4,6	4,2
	ue ratio 15-24	4,3	3,4	3,8	3,9	5,9	5,2	5,8	5,3	4,8	4,7	5,7	5,3	5,2
EU15	ue rate 15-24		15,8	14,0	14,8	15,4	15,7	16,5	15,9	14,9	15,2	19,6	20,0	20,3
	ue rate 15-64		8,4	7,4	7,8	8,0	8,2	8,2	7,8	7,1	7,1	9,2	9,6	9,7
	ue ratio 15-24	8,5	7,7	6,9	7,2	7,5	7,6	7,9	7,6	7,2	7,4	9,2	9,3	9,5

Source: OECD (rates), EUROSTAT (ratio), own figures, calculations

A 8: Unemployment rates 15-24y and 15-64y, and unemployment/population ratio 15-24y, Austria, Switzerland, Germany, EU15, %, 1999-2011



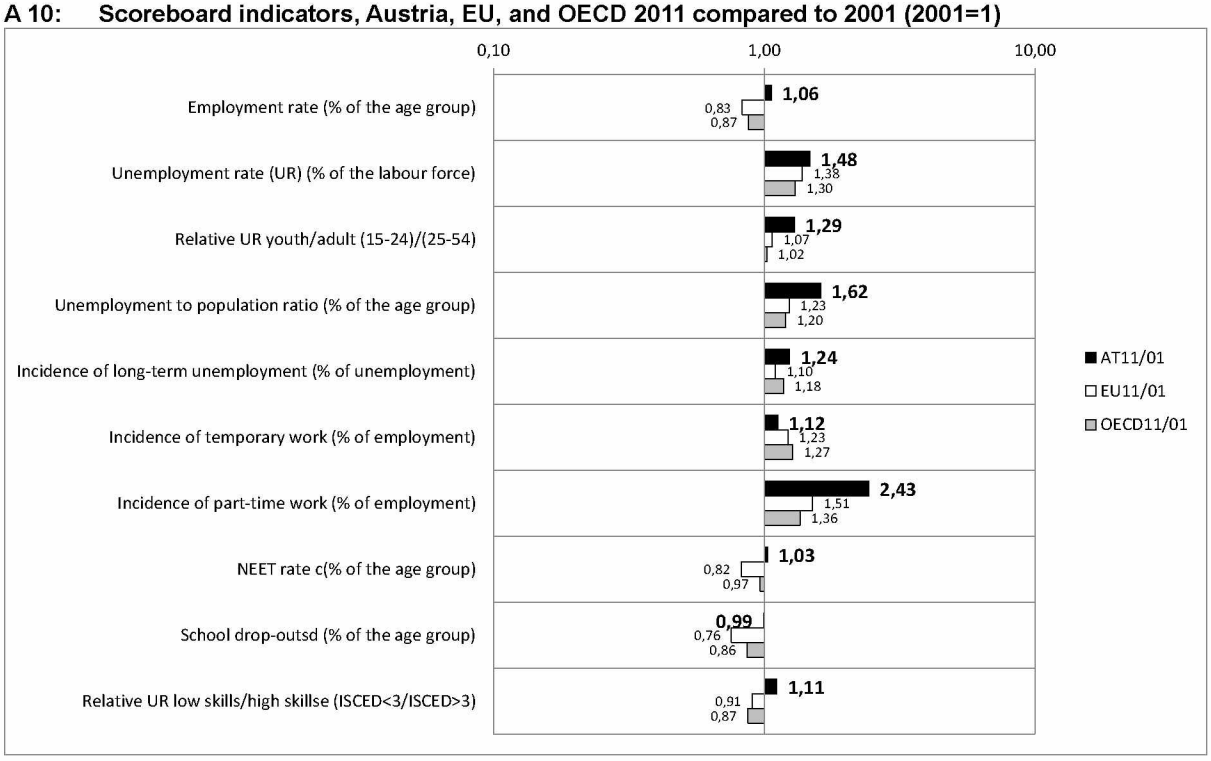
Source: OECD (rates), EUROSTAT (ratio), own figures, calculations

A 9: OECD scoreboard indicators Austria, EU, OECD 2001-2011

	AT	EU	OECD	AT	EU	OECD	AT/EU 01	AT/EU 11	AT/O 01	AT/O 11	AT 11/01	EU 11/01	O 11/01
ER Employment rate (% of age group)	51,6	40,2	43,3	54,9	33,4	37,8	1,28	1,65	1,19	1,45	1,06	0,83	0,87
UR Unemployment rate (% of LF)	5,6	16,5	14,5	8,3	22,8	19,0	0,34	0,36	0,39	0,44	1,48	1,38	1,30
UR youth/adult (15-24)/(25-54)	1,8	2,5	2,6	2,3	2,7	2,7	0,70	0,85	0,69	0,87	1,29	1,07	1,02
Unemployment ratio (% of age group)	3,1	7,3	6,7	5,0	9,0	8,1	0,42	0,55	0,46	0,62	1,62	1,23	1,20
Long-term UE (% of UE)	11,4	25,4	18,7	14,1	28,0	22,1	0,45	0,50	0,61	0,64	1,24	1,10	1,18
Temporary work (% of employment)	33,2	33,1	30,0	37,2	40,6	38,2	1,00	0,92	1,11	0,97	1,12	1,23	1,27
Part-time work (% of employment)	6,8	16,8	20,6	16,4	25,4	27,9	0,40	0,65	0,33	0,59	2,43	1,51	1,36
NEET (% of age group)	9,0	13,6	13,2	9,2	11,2	12,8	0,66	0,82	0,68	0,72	1,03	0,82	0,97
ESL (% of age group)	10,8	19,9	22,7	10,7	15,1	19,6	0,54	0,71	0,48	0,55	0,99	0,76	0,86
Rel. UR low/high skills (ISCED<3/>3)	1,3	2,6	2,5	1,5	2,3	2,2	0,53	0,65	0,54	0,69	1,11	0,91	0,87

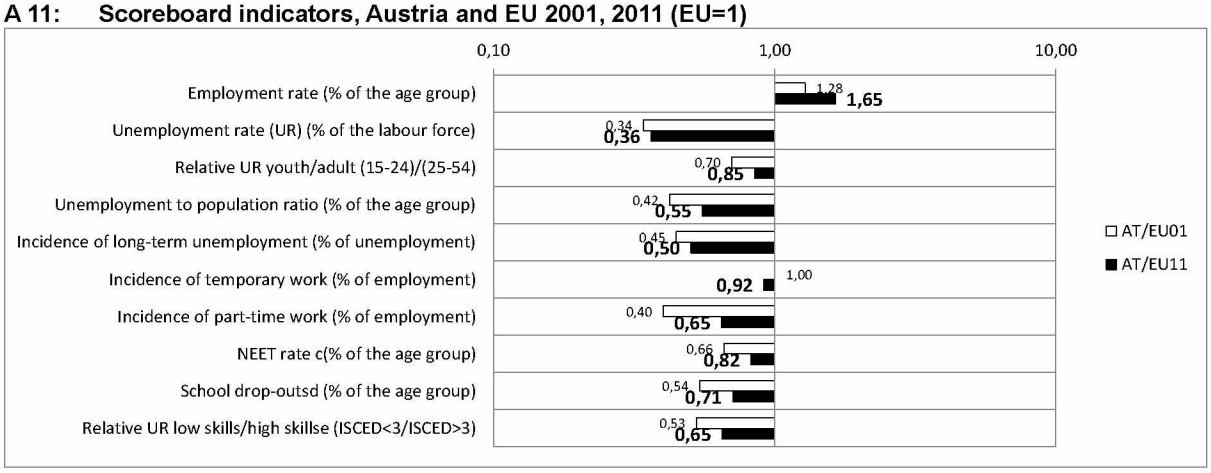
Source: OECD, Employment policies and data, Online OECD Employment database, Scoreboard on youth aged 15-24 http://www.oecd.org/els/employmentpoliciesanddata/scoreboard%20EN.xlsx

A 10: Scoreboard indicators, Austria, EU, and OECD 2011 compared to 2001 (2001=1)

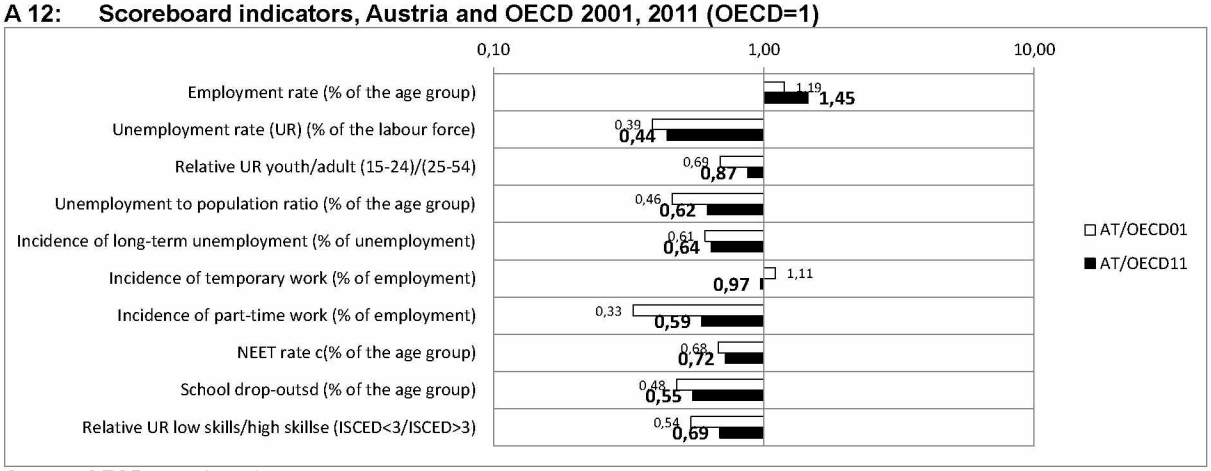


Source: OECD Scoreboard

A 11: Scoreboard indicators, Austria and EU 2001, 2011 (EU=1)



A 12: Scoreboard indicators, Austria and OECD 2001, 2011 (OECD=1)



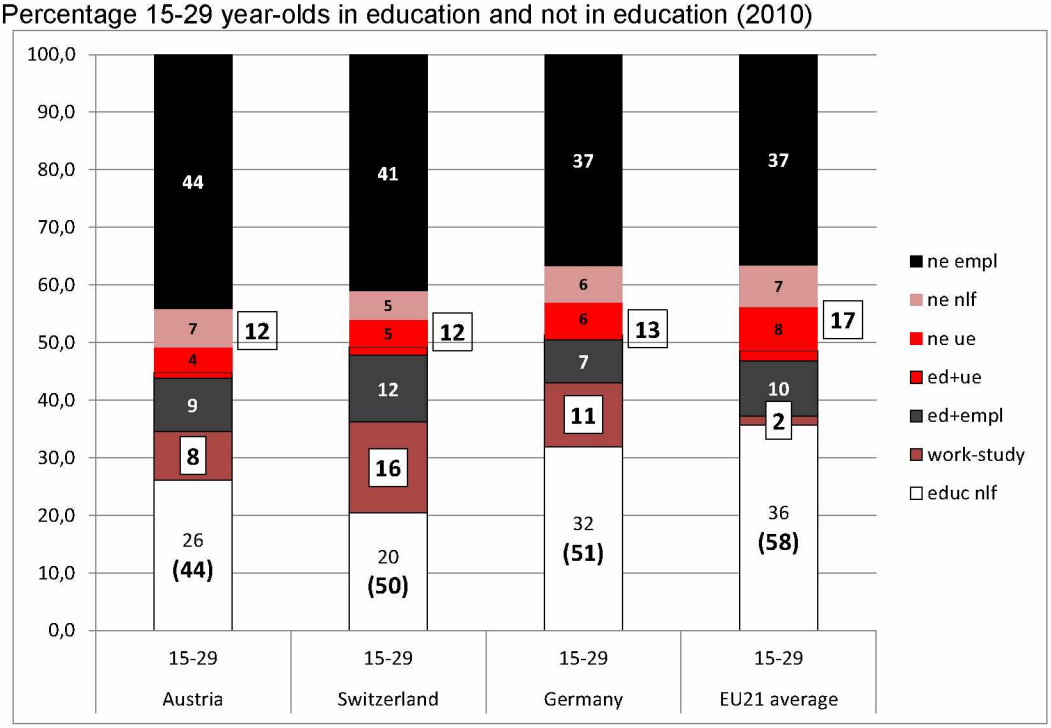
Source: OECD-scoreboard

A 13: Percentage 15-29 year-olds in education and not in education (2010)

	Age group	IN EDUCATION					NOT IN EDUCATION				
		Educ & not in LF	Work-study progr	Educ & other empl.	Educ & un-empl	IN EDUC	Empl	Un-empl	Not in LF	NOT IN EDUC	
Austria	15-19	56,3	23,8	5,5	1,0	86,6	8,1	3,2	2,1	13,4	100
	20-24	20,0	2,5	10,5	1,4	34,4	53,0	5,4	7,2	65,6	100
	25-29	5,2	0,3	11,2	0,8	17,5	67,8	4,4	10,3	82,5	100
	15-29	26,1	8,4	9,2	1,1	44,8	44,1	4,3	6,7	55,2	100
Switzer-land	15-19	42,1	37,2	6,8	2,4	88,5	6,7	2,1	2,6	11,5	100
	20-24	16,0	11,1	17,2	1,6	45,8	43,1	6,3	4,8	54,2	100
	25-29	5,0	1,0	10,6	0,7	17,2	70,0	5,6	7,2	82,8	100
	15-29	20,4	15,8	11,6	1,5	49,3	41,1	4,7	5,0	50,7	100
Germany	15-19	67,9	16,5	6,7	1,2	92,3	4,1	2,0	1,7	7,7	100
	20-24	23,3	15,1	8,2	0,9	47,5	38,8	7,1	6,6	52,5	100
	25-29	8,1	2,4	7,3	0,5	18,3	63,9	7,5	10,2	81,7	100
	15-29	31,9	11,1	7,4	0,9	51,3	36,7	5,7	6,3	48,7	100
EU21 average	15-19	75,0	(1,3)*	9,9	2,9	89,4	4,4	3,0	3,5	10,6	100
	20-24	31,8	(0,9)*	11,6	2,4	46,8	35,8	10,0	7,5	53,2	100
	25-29	6,2	(0,2)*	7,9	1,2	15,4	65,2	9,4	10,0	84,6	100
	15-29	35,7	(1,6)*	9,5	1,8	48,6	36,6	7,6	7,2	51,4	100

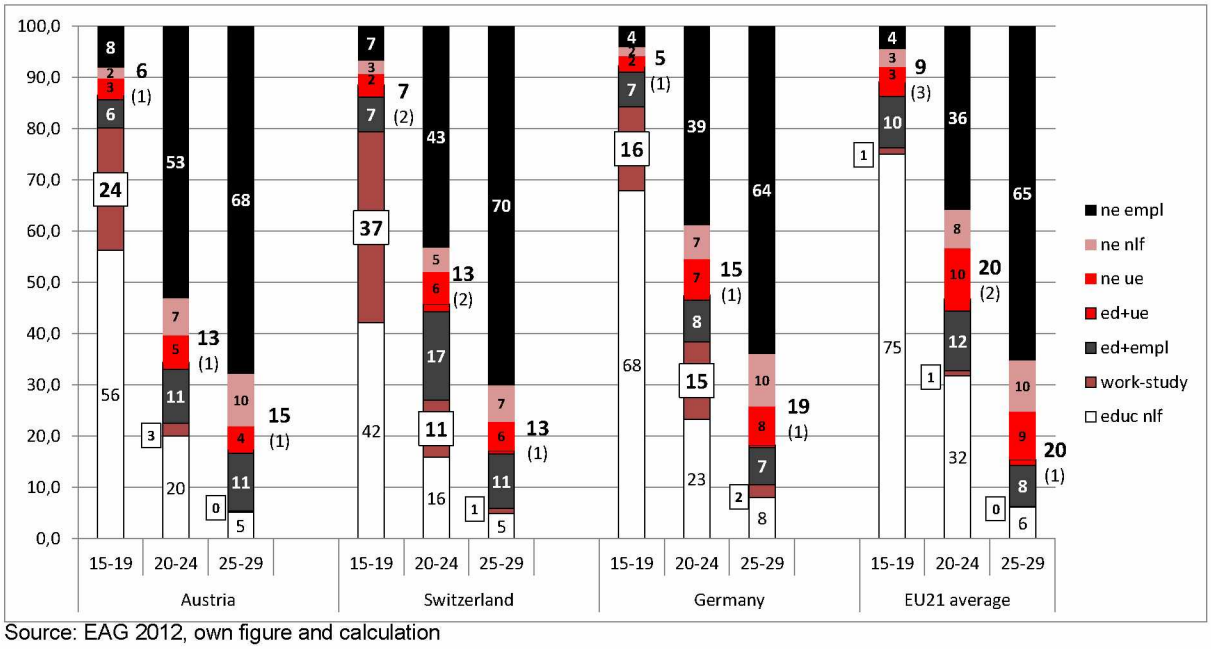
Source: OECD, EAG 2012, Indicator C5, Table C5.2a, *estimated: Difference to 100% (max. 7 countries with values: Austria, Belgium, Czech Republic, Germany, Italy, Slovak Republic, United Kingdom)

Percentage 15-29 year-olds in education and not in education (2010)



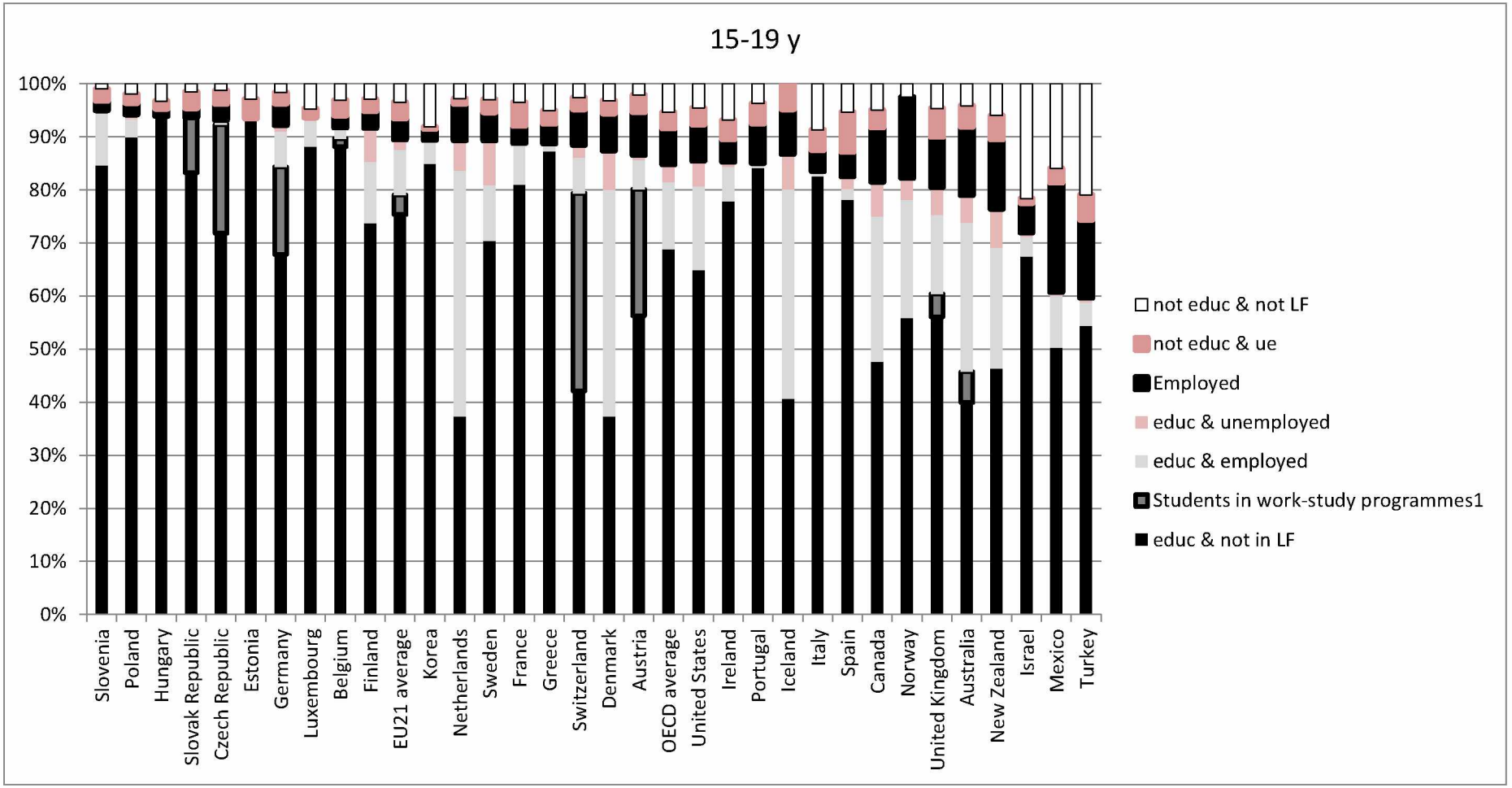
Source: EAG 2012, own figure and calculation

Percentage 15-29 year-olds in education and not in education, by age groups (2010)



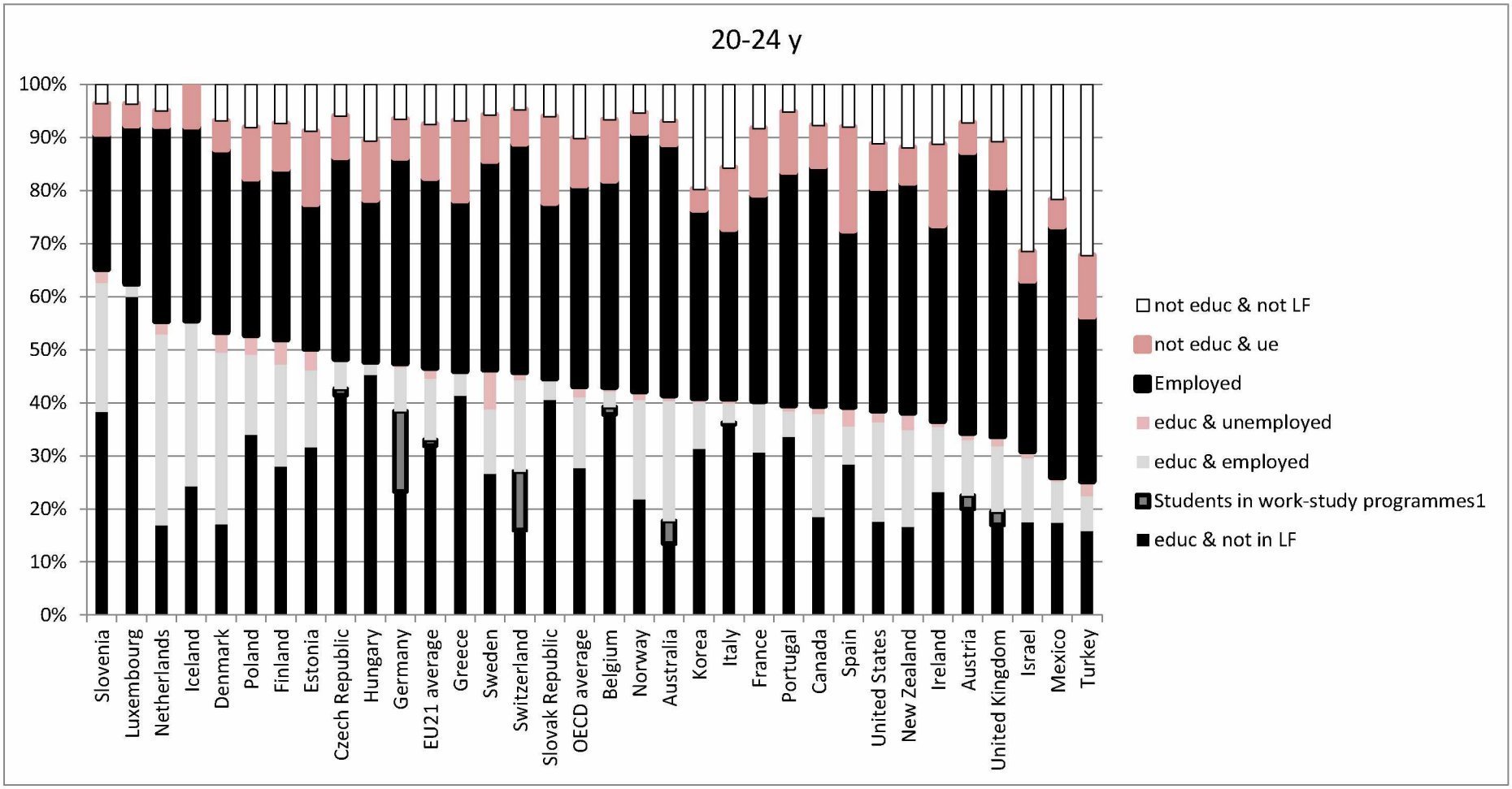
Source: EAG 2012, own figure and calculation

A 14: Youth in education and not in education, OECD countries, 15-19 years old



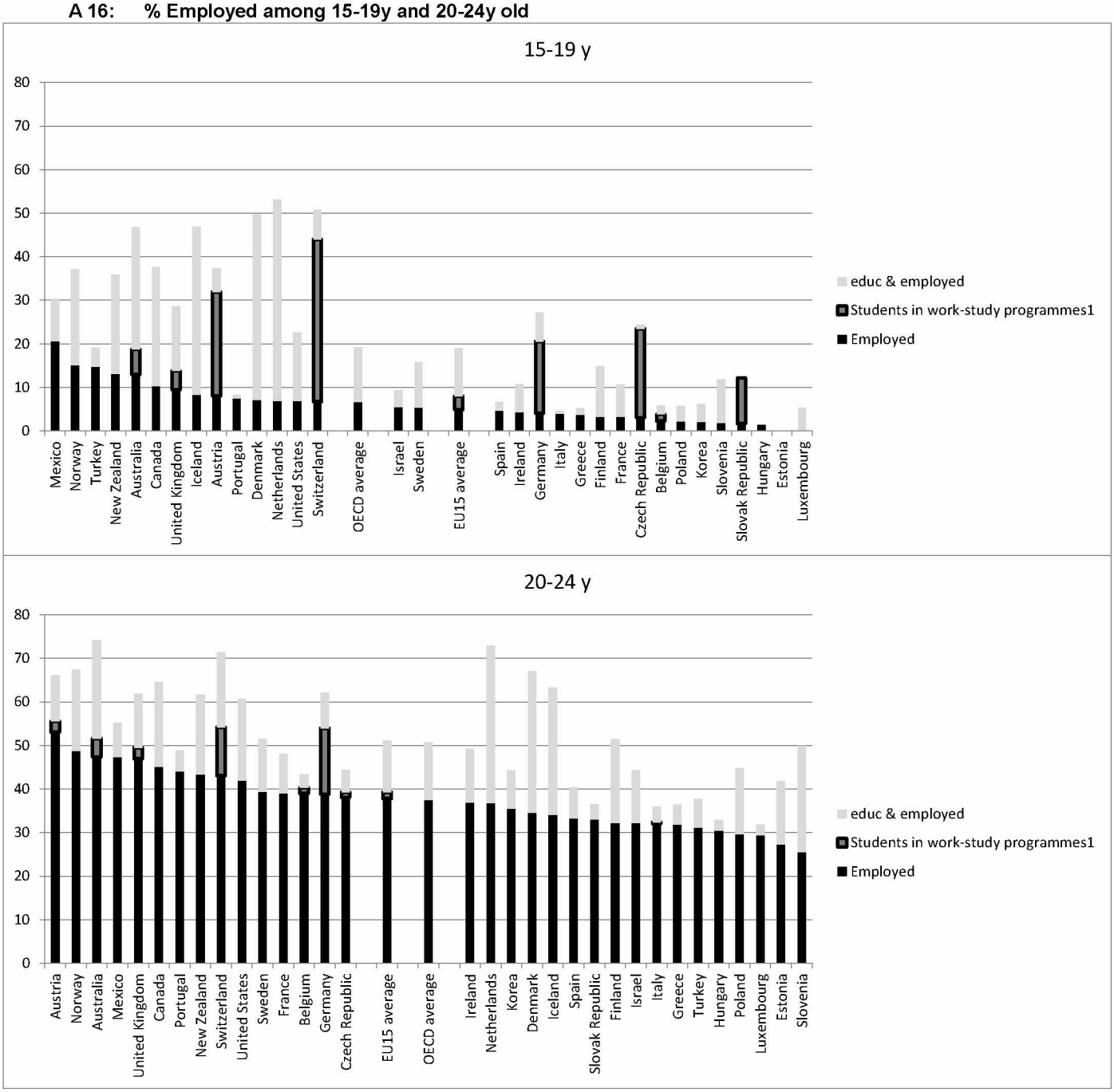
Source: OECD, EAG 2012, Indicator C5, Table C5.2a. Percentage of 15-29 year-olds in education and not in education, by 5-year age group and work status, own figure, calculation, sorted by sub-total in education

A 15: Youth in education and not in education, OECD countries, 20-24 years old

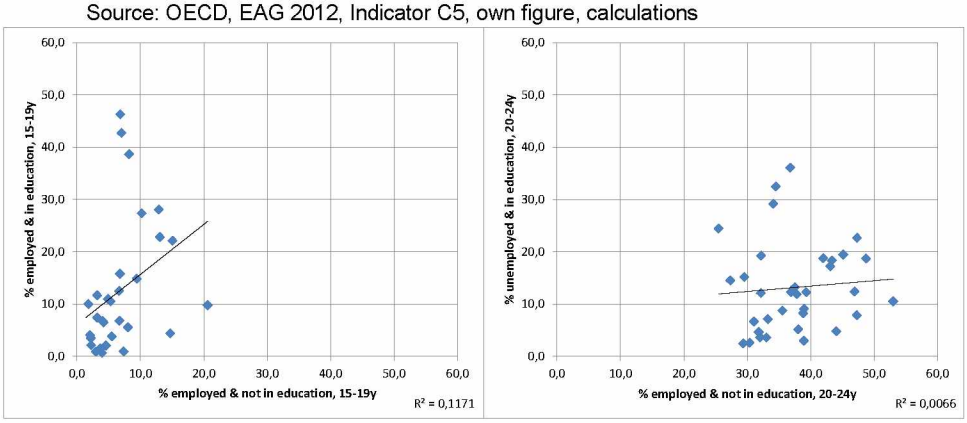


Source: OECD, EAG 2012, Indicator C5, Table C5.2a. Percentage of 15-29 year-olds in education and not in education, by 5-year age group and work status, own figure, calculation, sorted by sub-total in education

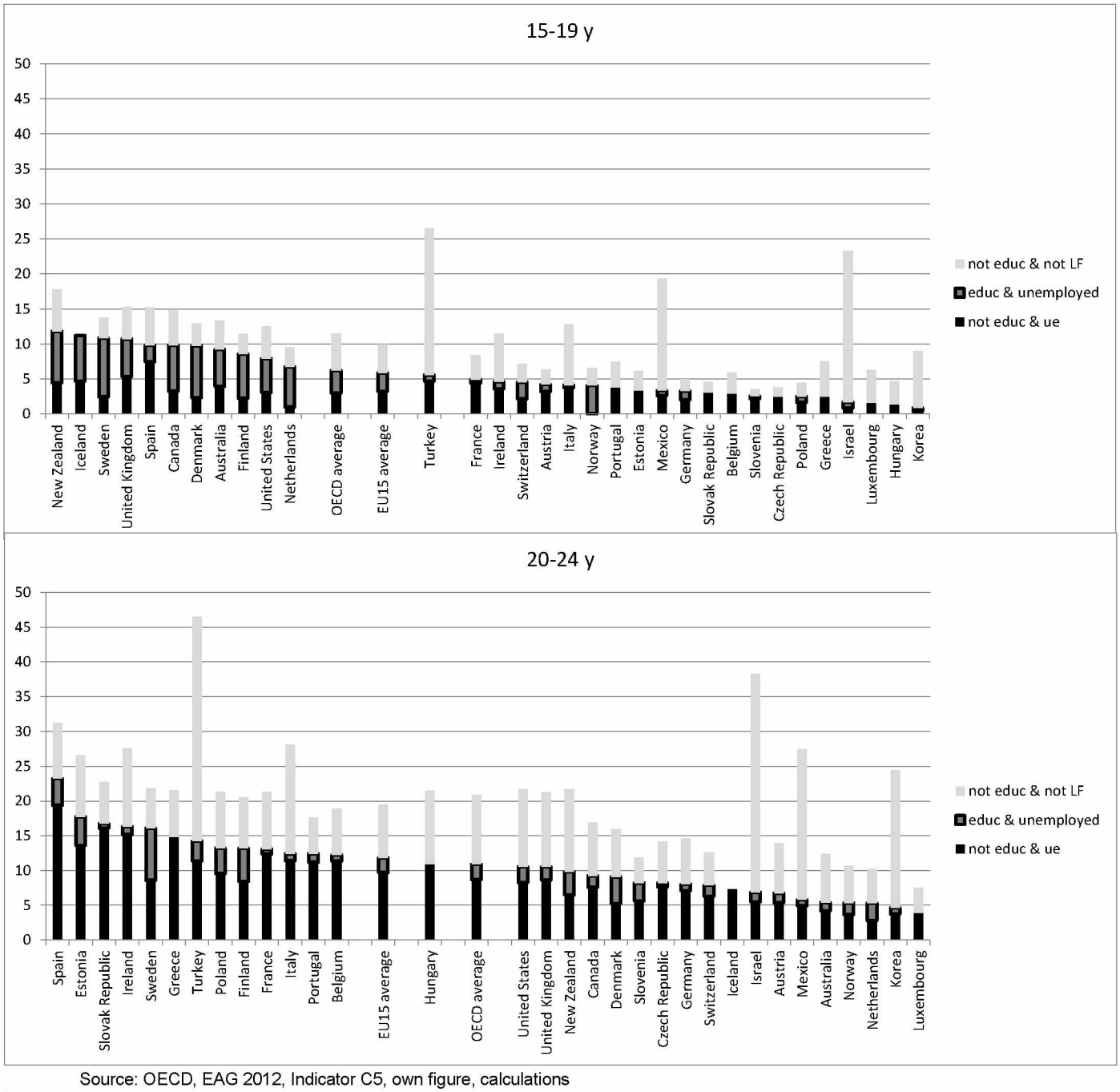
A 16: % Employed among 15-19y and 20-24y old



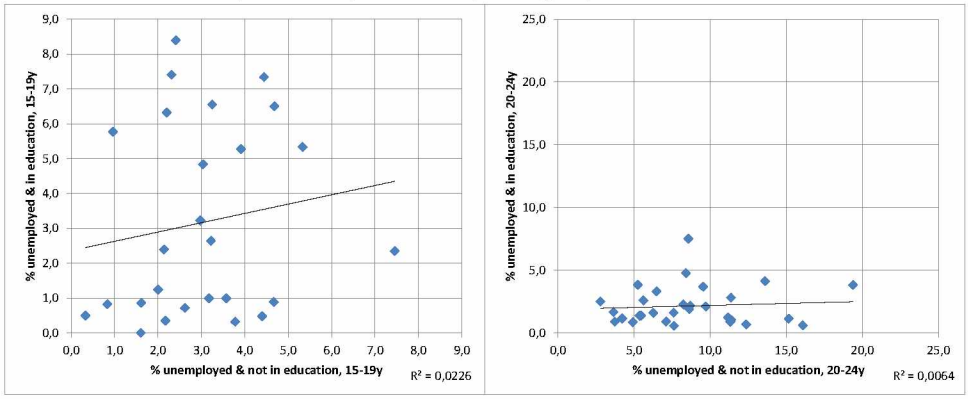
Source: OECD, EAG 2012, Indicator C5, own figure, calculations



A 17: % unemployed among 15-19y and 20-24y old



Source: OECD, EAG 2012, Indicator C5, own figure, calculations

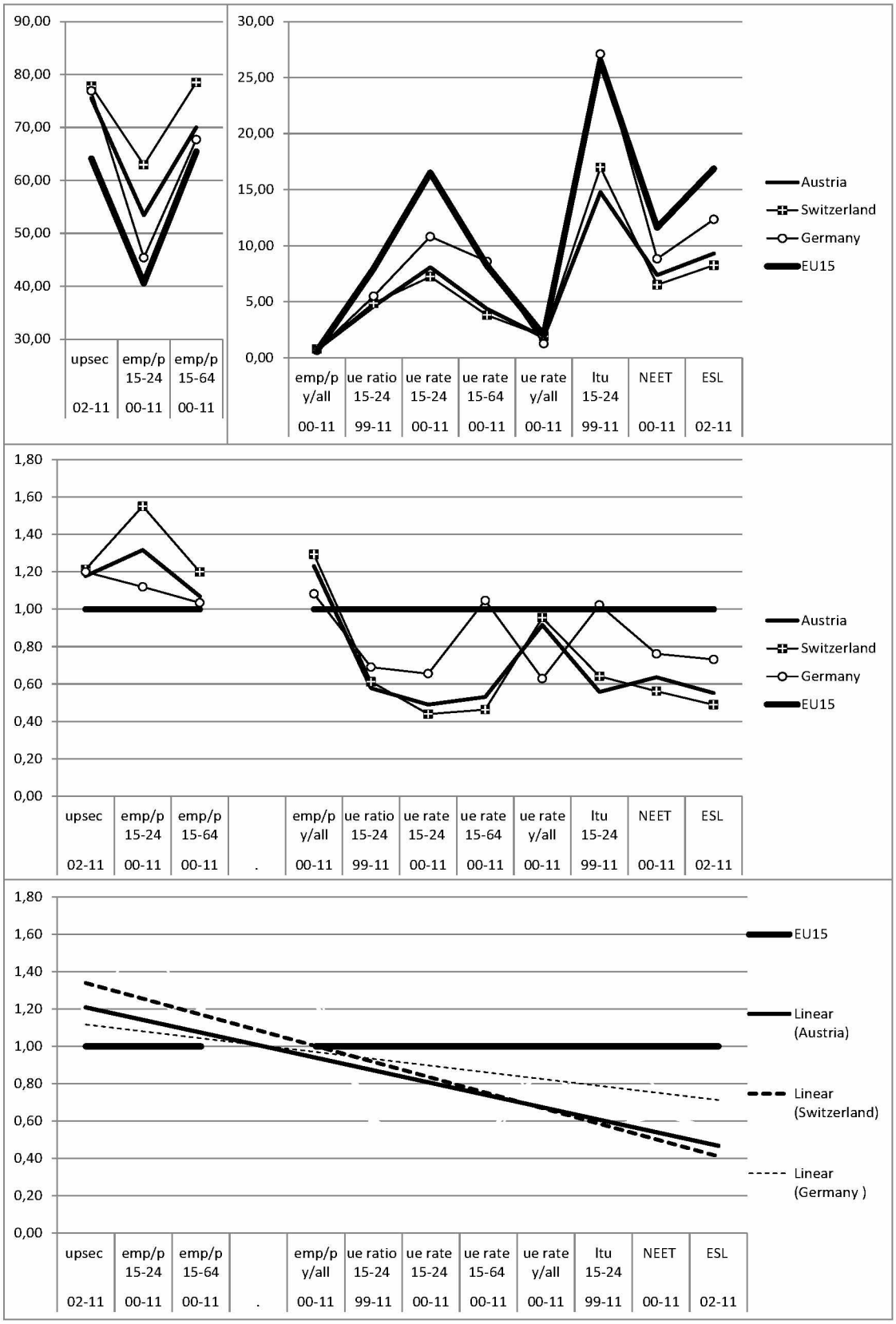


A 18: Youth education and labour market indicators Austria, Switzerland, Germany, EU15, 1999-2011, average available years

Indicator:	(1) upsec	(2) emp/p 15-24	(3) emp/p 15-64	(4) emp/p y/all	(5) ue ratio 15-24	(6) ue rate 15-24	(7) ue rate 15-64	(8) ue rate y/all	(9) ltu 15-24	(10) NEET	(11) ESL
Period:	02-11	00-11	00-11	00-11	99-11	00-11	00-11	00-11	99-11	00-11	02-11
					Percentage, except (4) and (8) index, all=1						
Austria	75,52	53,40	69,98	0,76	4,59	8,07	4,36	1,84	14,77	7,38	9,30
Switzer-Land	77,78	62,91	78,49	0,80	4,87	7,23	3,80	1,91	16,99	6,51	8,25
Germany	76,91	45,39	67,70	0,67	5,49	10,81	8,60	1,26	27,10	8,83	12,34
EU15	64,12	40,55	65,45	0,62	7,96	16,50	8,22	2,01	26,52	11,61	16,88
					Index, EU15=1						
Austria	1,18	1,32	1,07	1,23	0,58	0,49	0,53	0,92	0,56	0,64	0,55
Switzer-Land	1,21	1,55	1,20	1,29	0,61	0,44	0,46	0,95	0,64	0,56	0,49
Germany	1,20	1,12	1,03	1,08	0,69	0,65	1,05	0,63	1,02	0,76	0,73
EU15	1	1	1	1	1	1	1	1	1	1	1

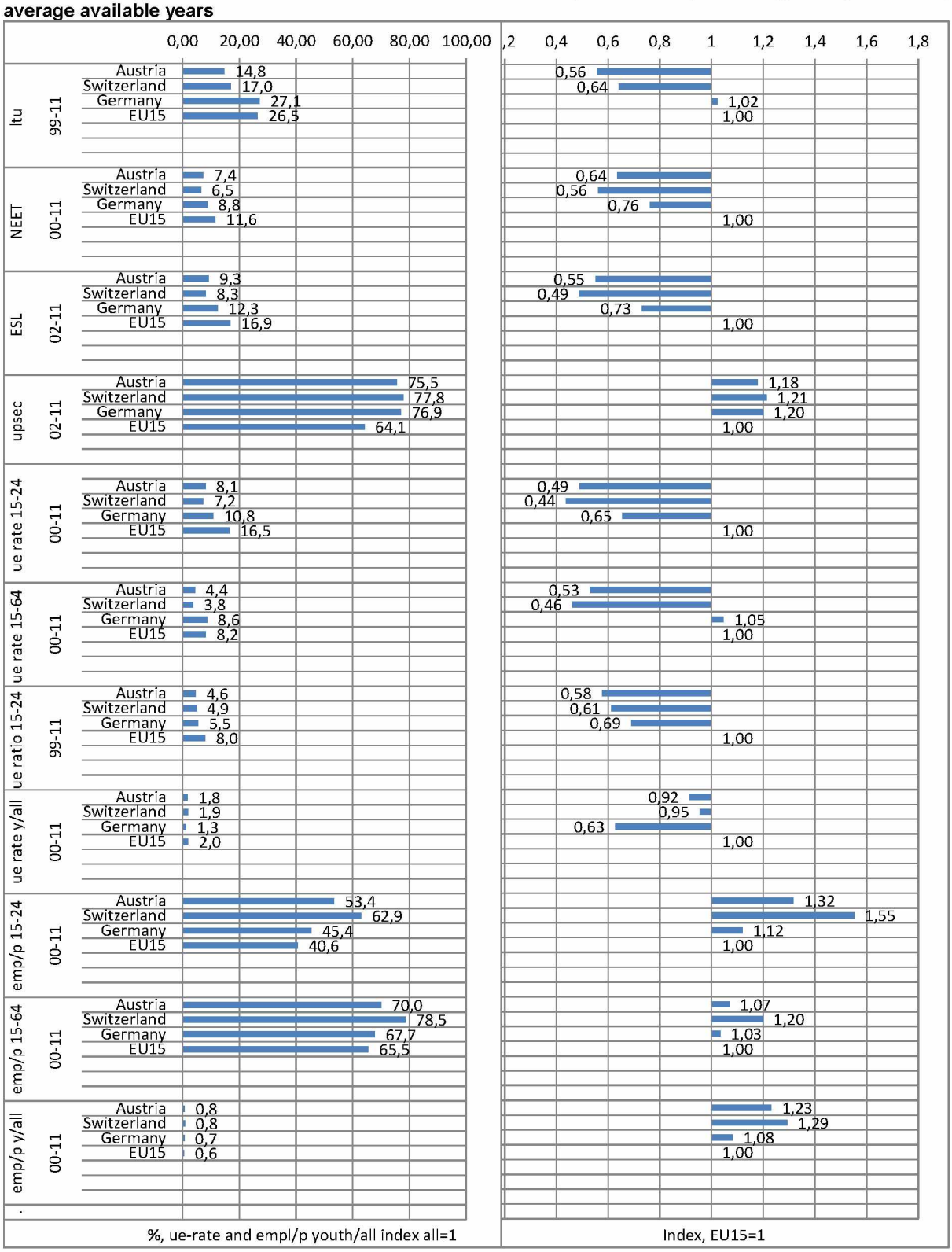
Source: EUROSTAT, Dashboard of EU Youth Indicators (ltu 15-24, NEET, ESL, upsec, youth unemployment ratio); OECD, Online OECD Employment database (unemployment rates, employment/population); (1) Young people (20-24) having at least completed upper secondary education, (2) employment/population 15-24 years, (3) employment/population 15-64 years, (4) indicator 2 / indicator 3, (5) unemployment/population 15-24 years, (6) youth unemployment rate, 15-24 years, (7) total unemployment rate, 15-64 years, (8) indicator 6 / indicator 7, (9) Long-term youth unemployment rate, (10) Young people not in employment, education or training (NEET), (11) Early leavers from education and training

A 19: Youth education and labour market indicators Austria, Switzerland, Germany, EU15, 1999-2011, average available years



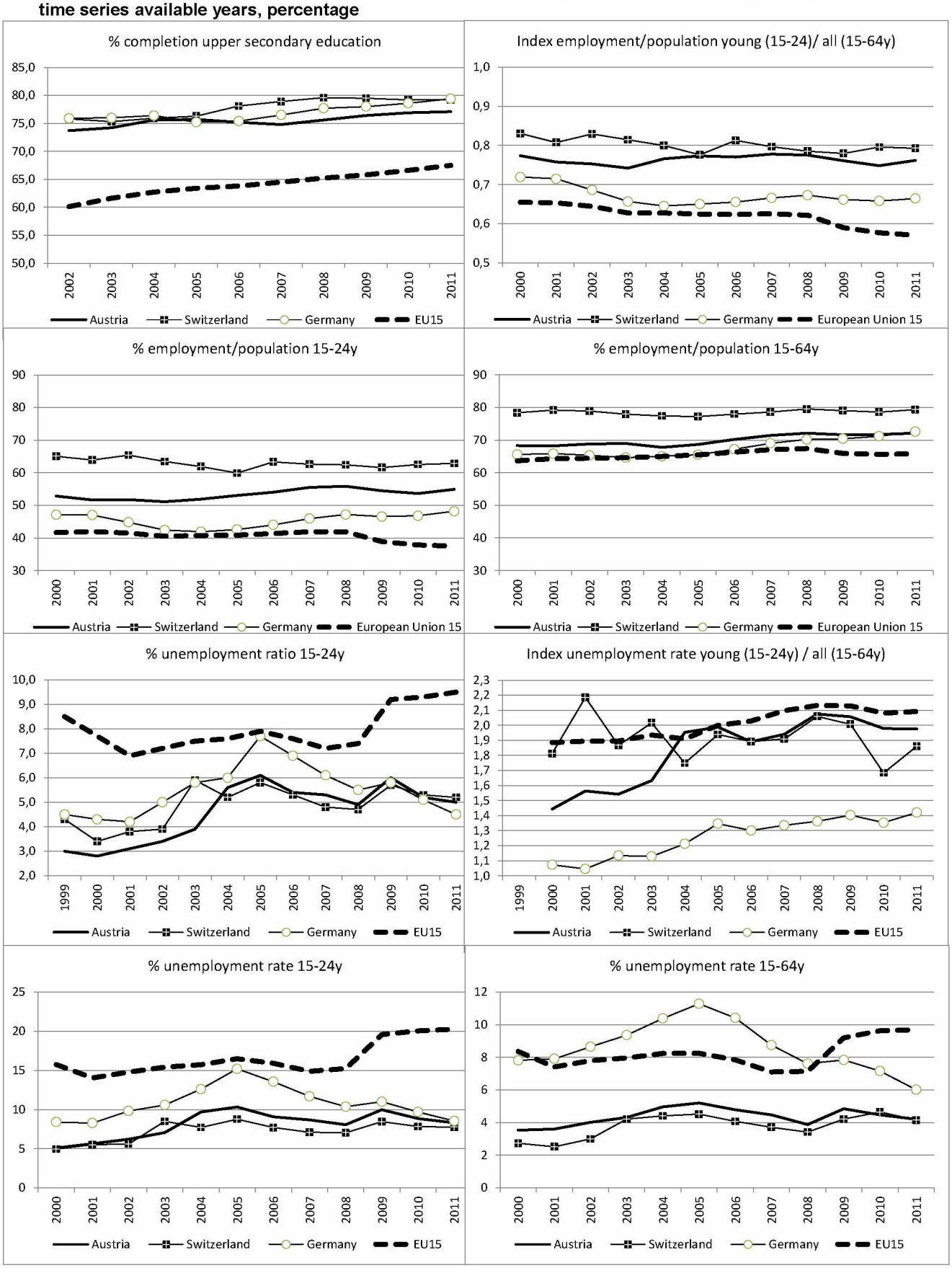
Source. Eurostat, OECD, own calculations

A 20: Youth education and labour market indicators Austria, Switzerland, Germany, EU15, 1999-2011, average available years

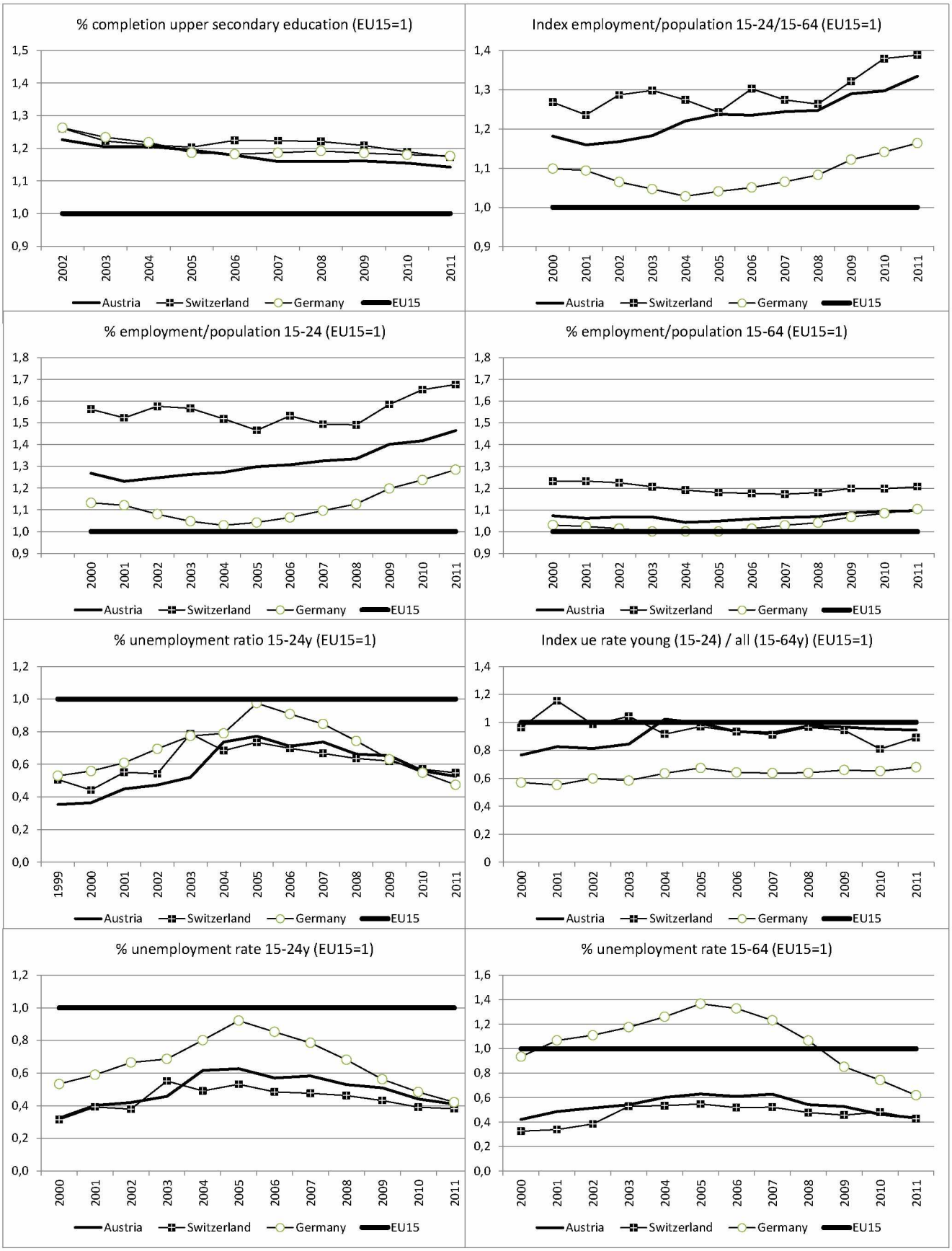


Source: EUROSTAT, Dashboard of EU Youth Indicators (ltu 15-24, NEET, ESL, upsec, youth unemployment ratio); OECD, Online OECD Employment database (unemployment rates, employment/population)

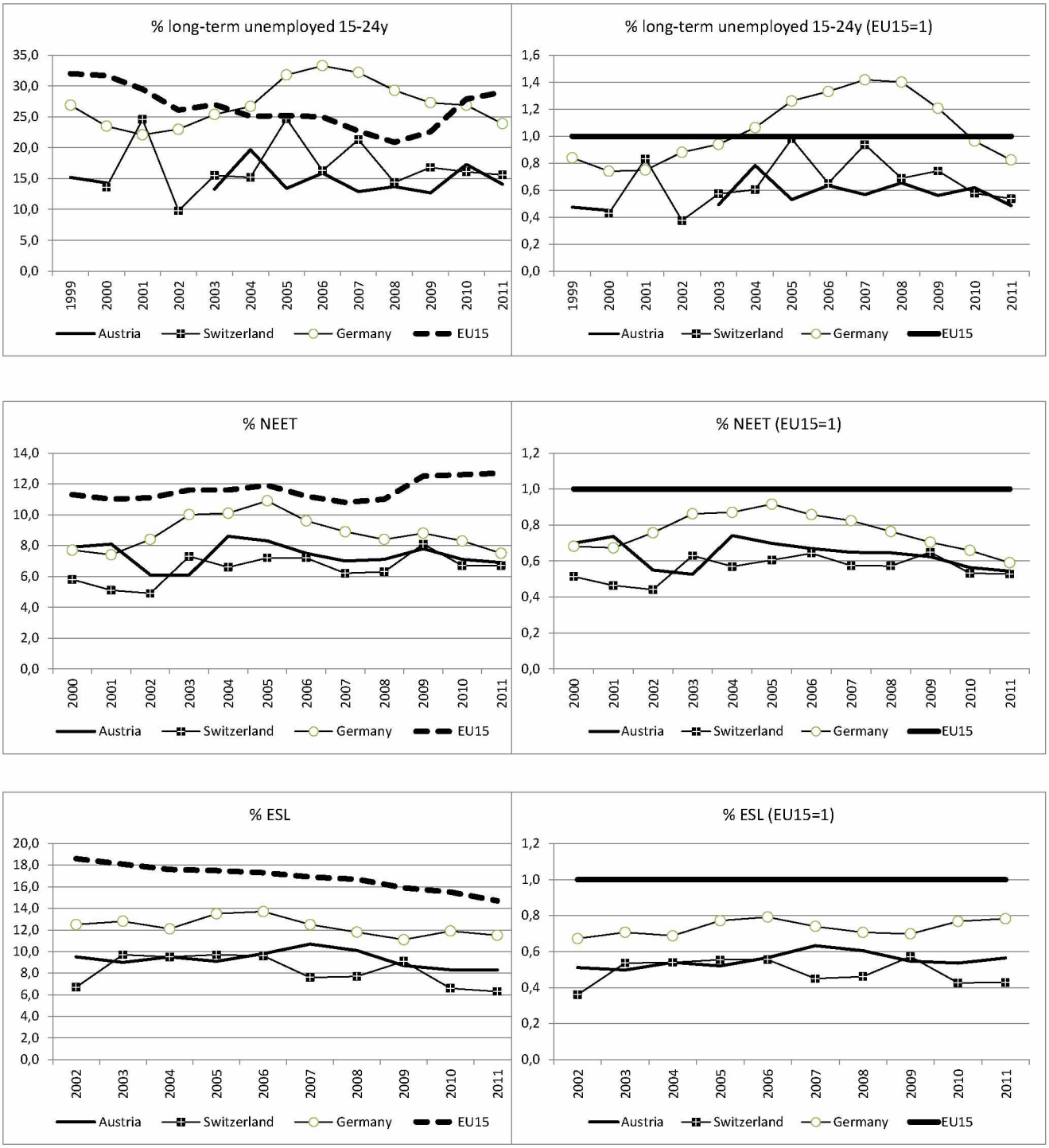
A 21: Youth education and labour market indicators Austria, Switzerland, Germany, EU15, 1999-2011, time series available years, percentage



Source. Eurostat, OECD, own calculations

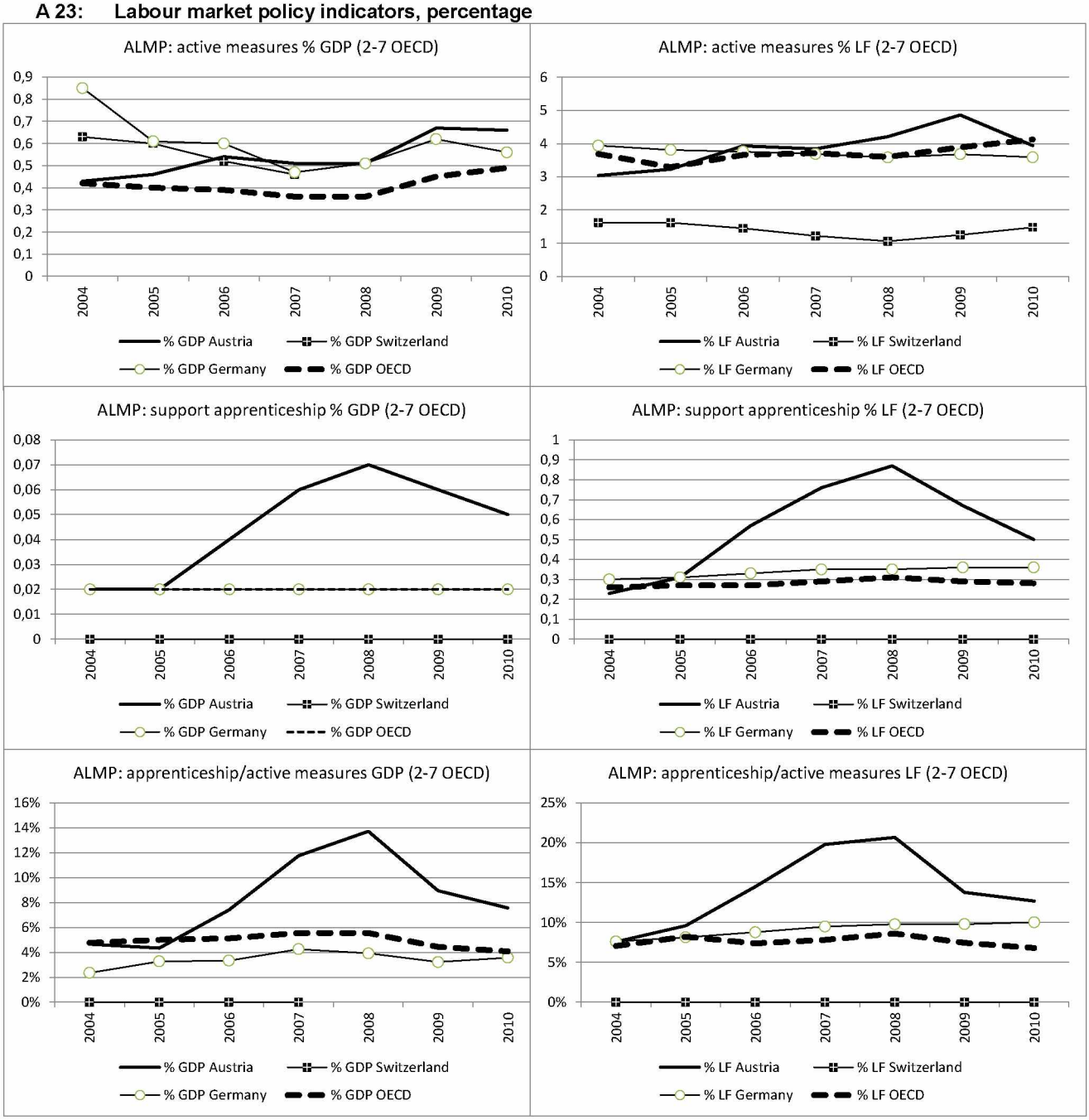


Source. Eurostat, OECD, own calculations



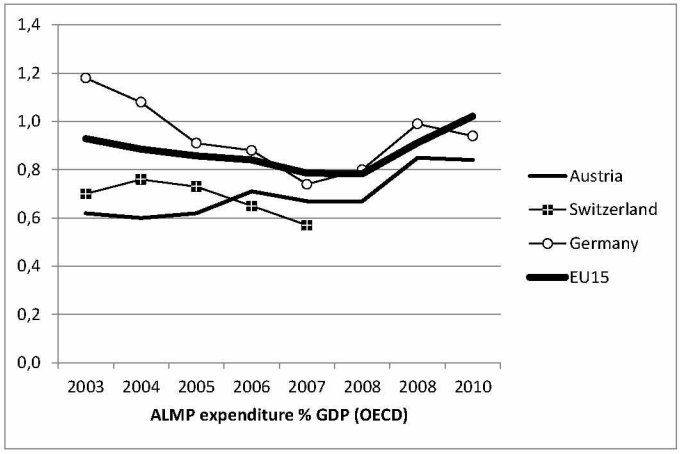
Source: OECD, Online OECD Employment database , own calculations

A 23: Labour market policy indicators, percentage



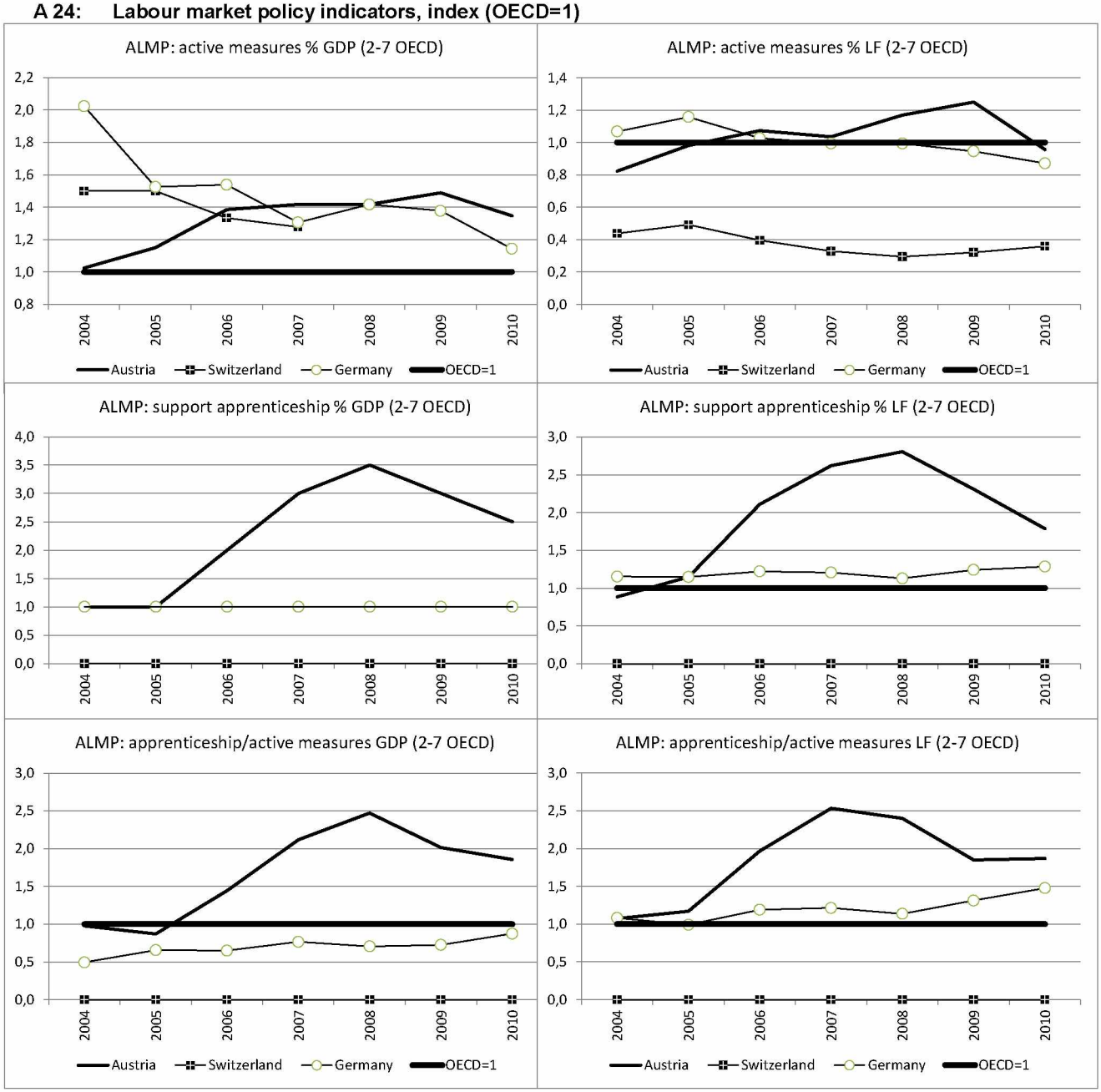
Source: OECD, Online OECD Employment database , own calculations

Total ALMP expenditure % GDP



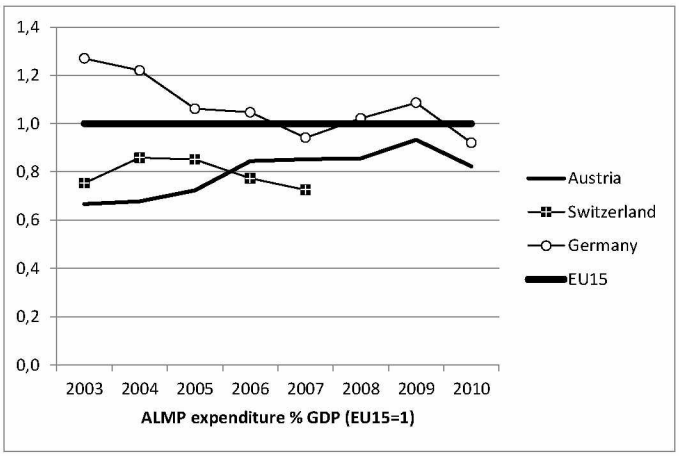
Source: OECD-Key tables 2012, own figure

A 24: Labour market policy indicators, index (OECD=1)



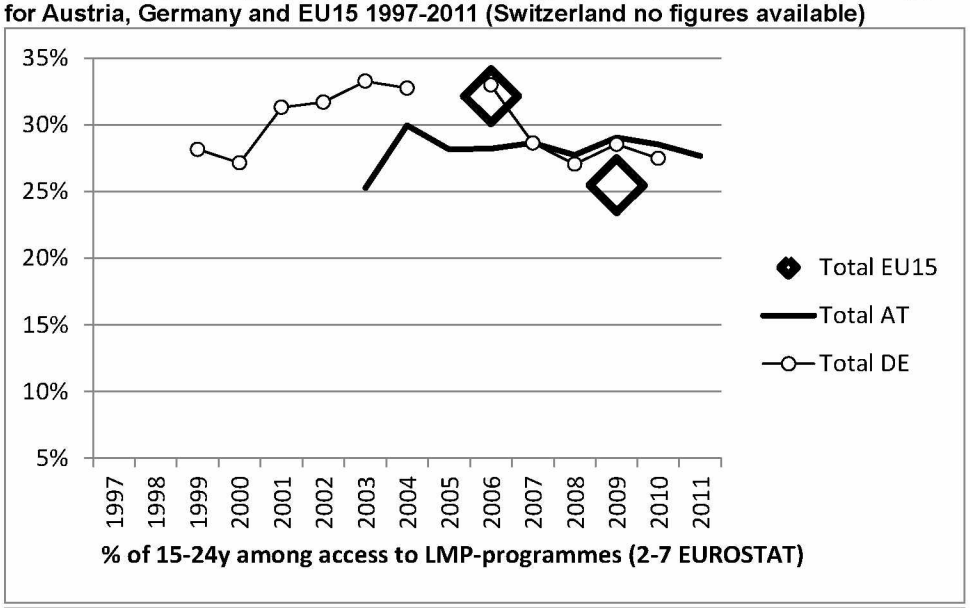
Source: OECD, Online OECD Employment database , own calculations

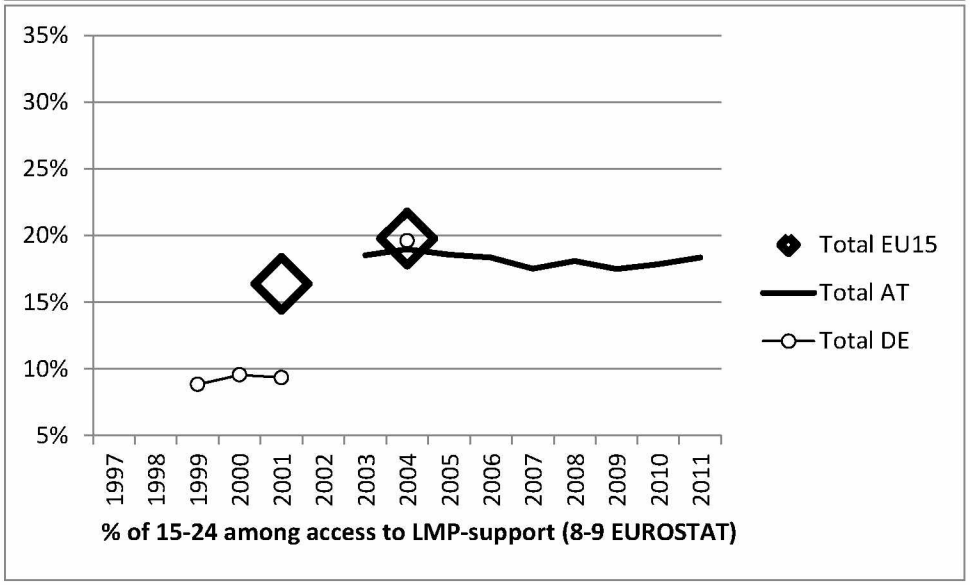
Total ALMP expenditure % GDP (Index)



Source: OECD, own figure, calculations

A 25: 15-24y among total access to LMP programmes (2-7) and support (8-9), plausible available years for Austria, Germany and EU15 1997-2011 (Switzerland no figures available)

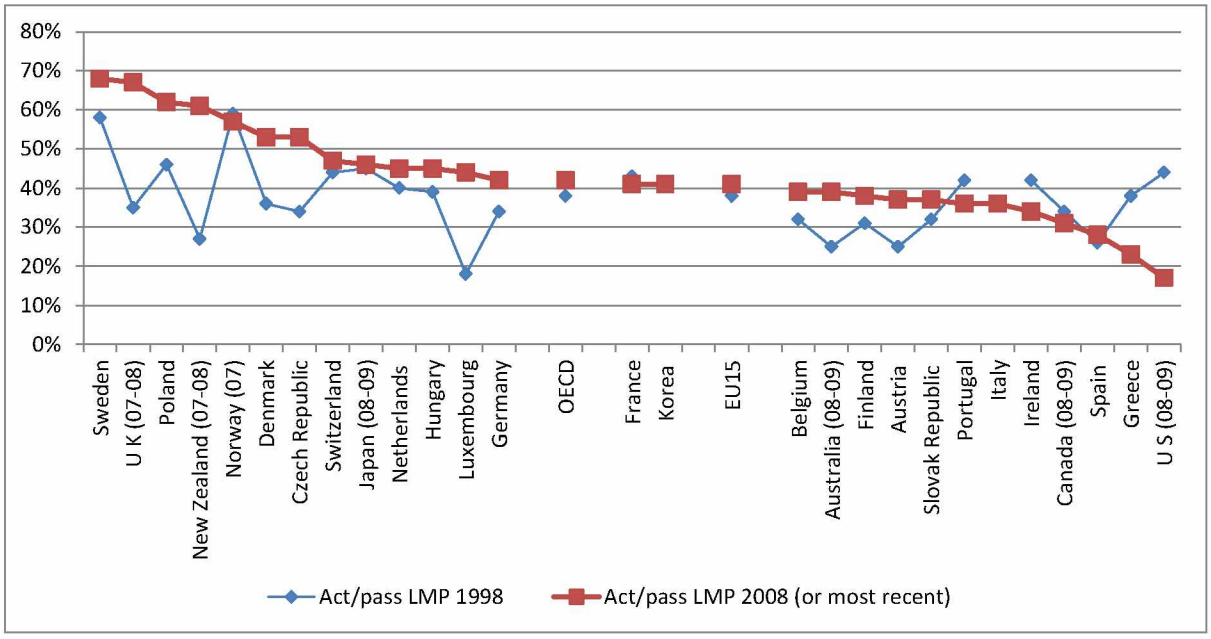




Source: Eurostat, labour market policy database, participants, own figure, calculations

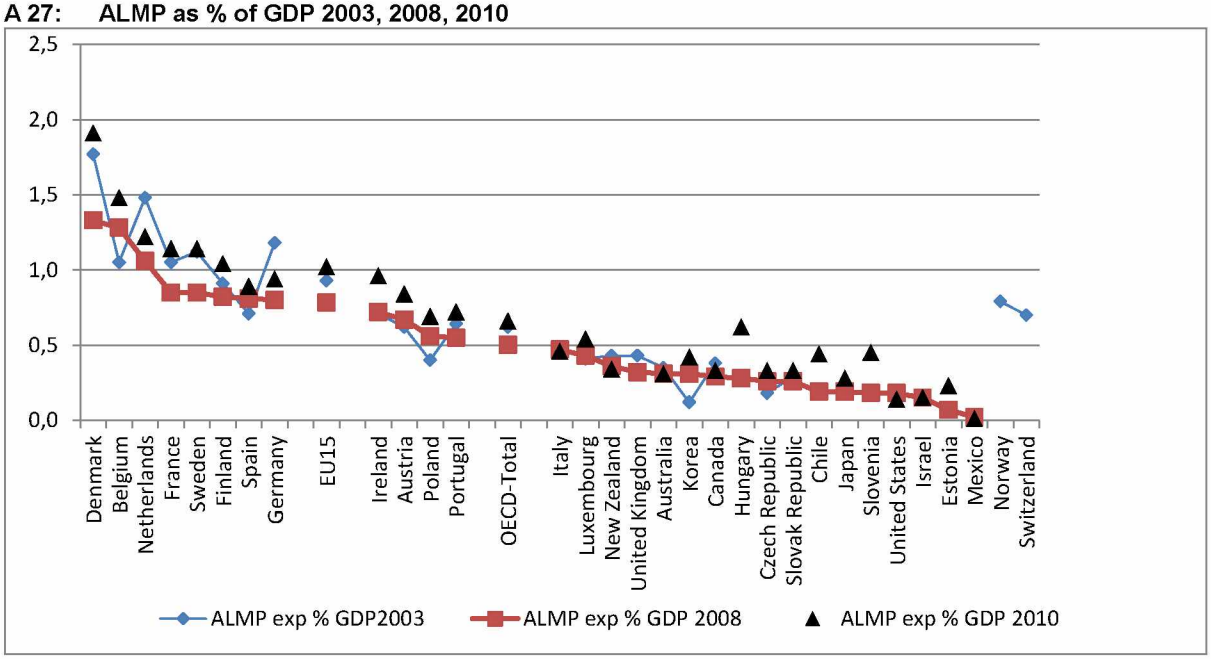
A 26: LMP Traditions 1998 to 2010

Relationship active to passive LMP expenditure 1998, 2008



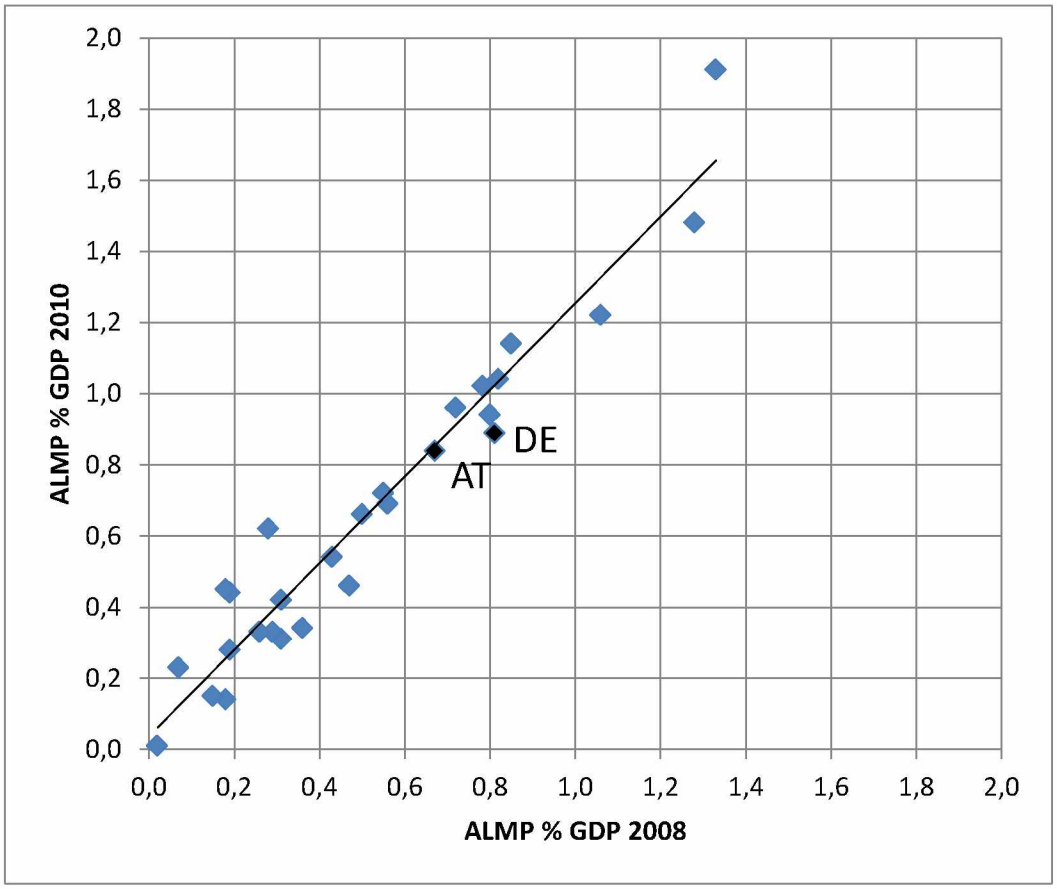
Source: OECD (2010) Social, Employment and Migration Working Papers N° 112, Fig.1.5, own calculations

A 27: ALMP as % of GDP 2003, 2008, 2010



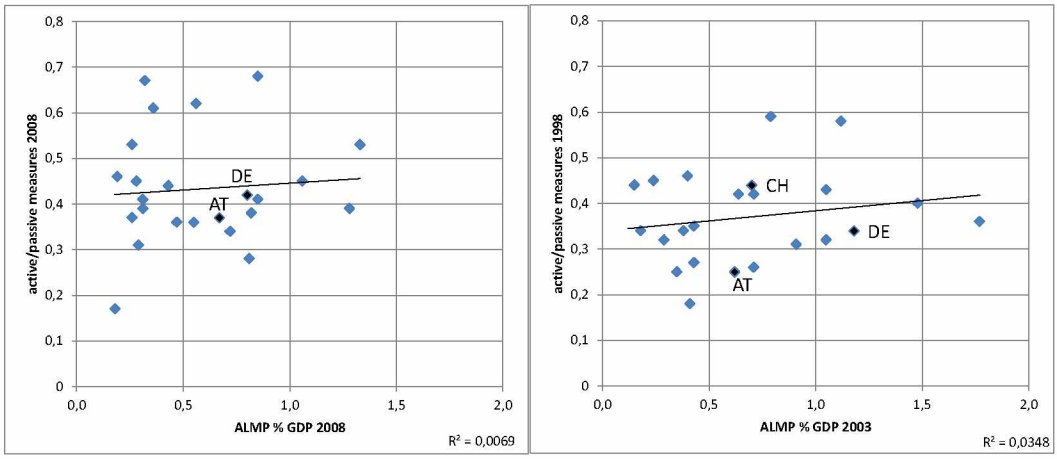
Source: OECD Employment and Labour Market Key Tables 2012, own figure, calculations

A 28: ALMP as % of GDP 2008 and 2010, and active and passive measures



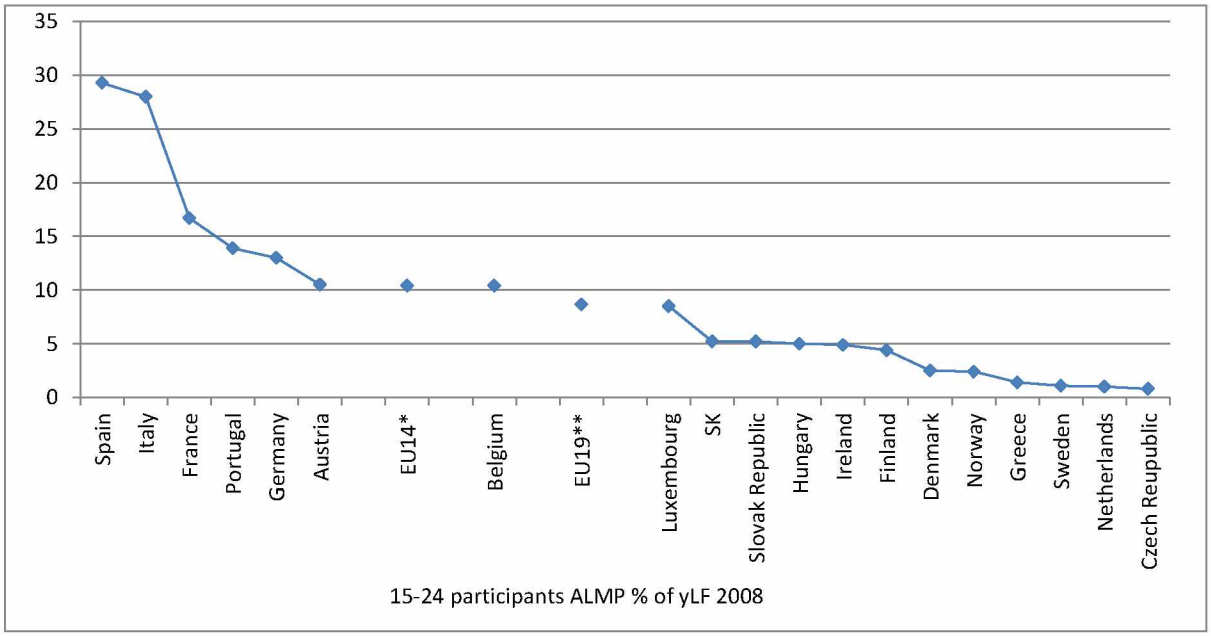
Source: OECD Employment and Labour Market Key Tables 2012, own figure, calculations

ALMP as % GDP and active/passive expenditure 2008, 2003, 1998



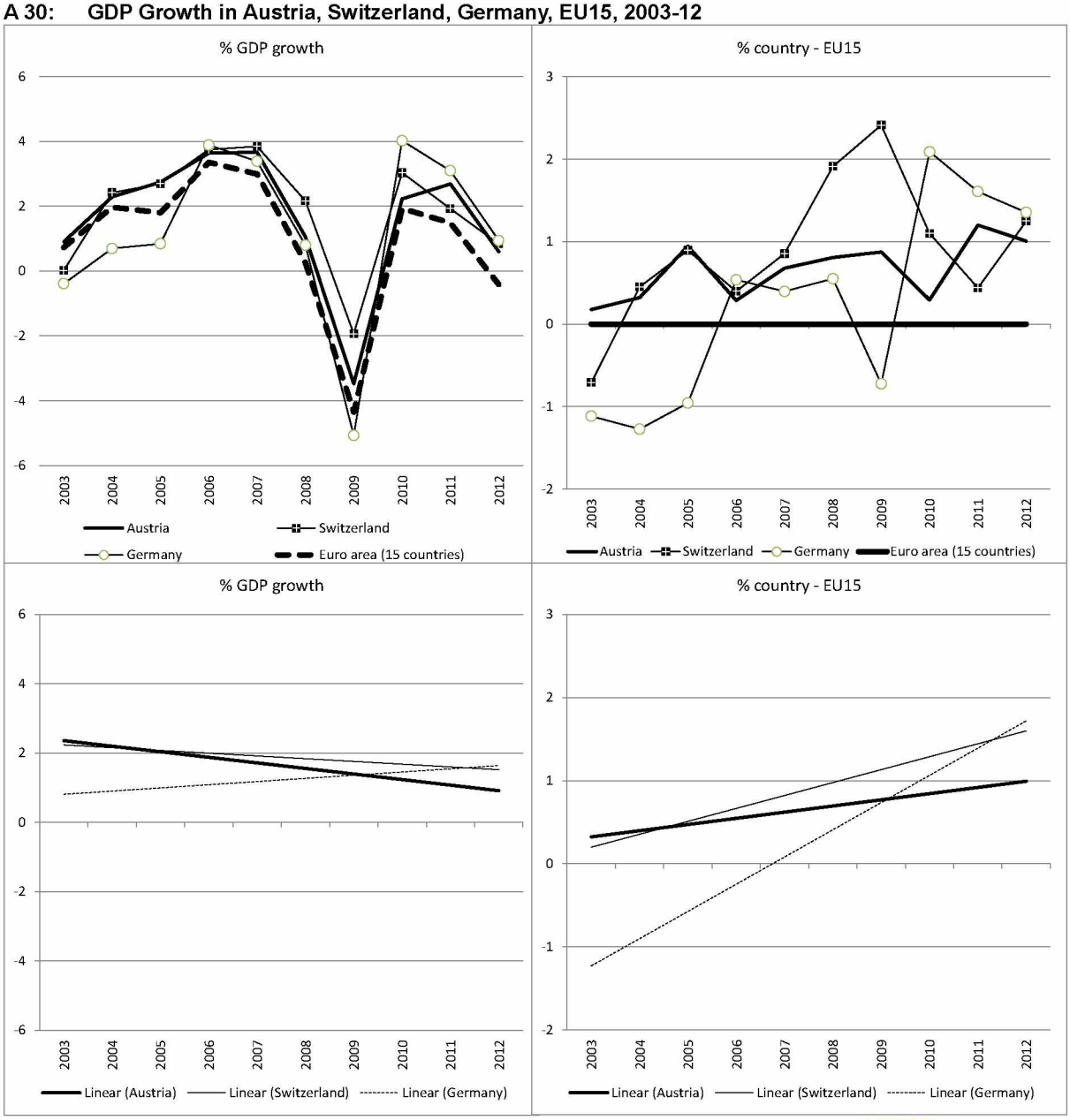
Source: OECD Employment and Labour Market Key Tables 2012; OECD (2010) Social, Employment and Migration Working Papers N° 112, Fig.1.5, own calculations

A 29: Youth (15-24) participants in ALMP as % of young (15-24) labour force, available EU countries, 2008



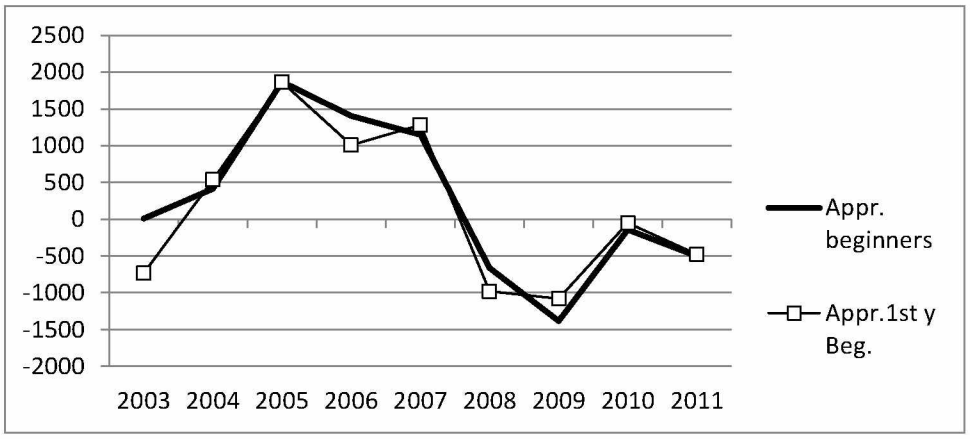
Source: estmation, based on OECD, Jobs for Youth synthesis report, Figure 6.1, p.125, *UK missing, **countries available

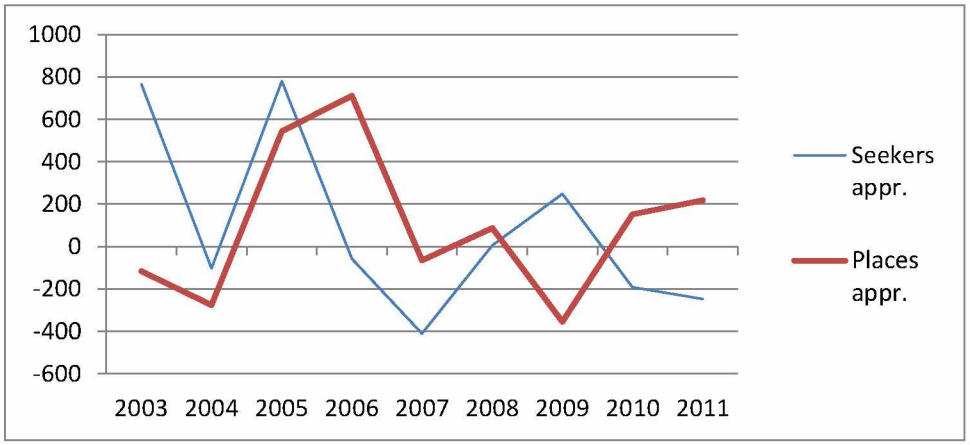
A 30: GDP Growth in Austria, Switzerland, Germany, EU15, 2003-12



Source: OECD Economic Outlook No 92 - December 2012 - OECD Annual Projections MetaData from OECD.Stat

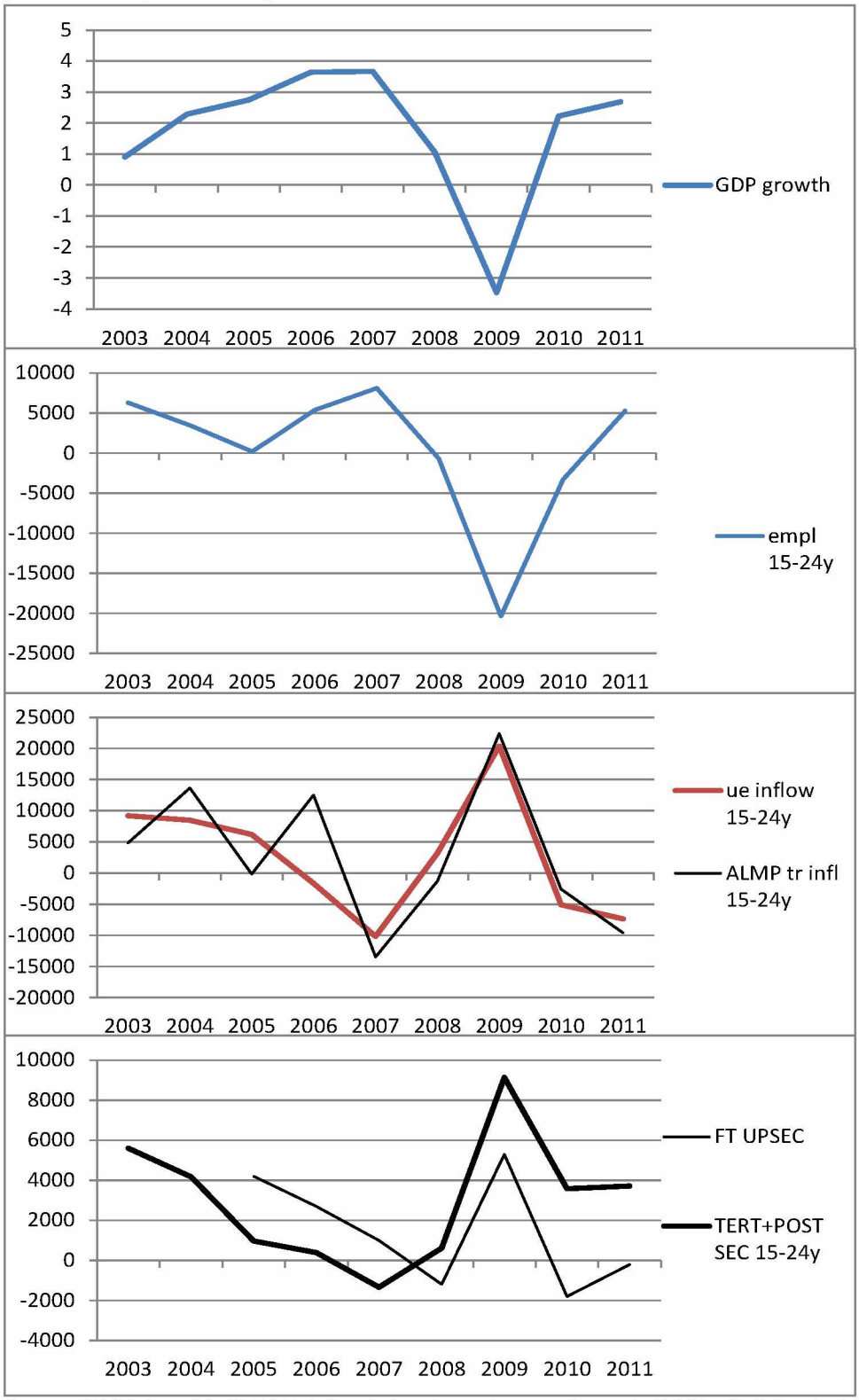
A 31: GDP growth, apprenticeship beginners, apprenticeship market, differences t to t-1, 2002-2011





Source: OECD (growth), BMASK Bali web (apprenticeship), own figures, calculations

A 32: GDP growth, youth employment, unemployment, ALMP training, upper secondary, postsecondary and tertiary education, differences t to t-1, 2002-2011



Source: OECD (growth), BMASK Bali web (employment, unemployment, ALMP), Statistics Austria, BMUKK, BMWF data warehouse (education)

A 33: Sources and links

Austria:

BMASK, Bali web http://www.dnet.at/bali/Default.aspx

BMASK 2012, Aktive Arbeitsmarktpolitik in Österreich

BMUKK, http://www.bmukk.gv.at/medienpool/13314/biwi_2006.pdf, http://www.bmukk.gv.at/medienpool/15071/stat_tb_2006.xls

BMWF, uni:data, Datawarehouse Hochschulbereich
http://eportal.bmbwk.gv.at/portal/page?_pageid=93,140222&_dad=portal&_schema=PORTAL

Statistik Austria, Schulen, Schulbesuch
http://www.statistik.at/web_de/statistiken/bildung_und_kultur/formales_bildungswesen/schulen_schulbesuch/index.html

Statistik Austria, Bildung in Zahlen, Tabellenbände, 2010/11, 2007/08, 2006/07

Comparative:

EUROSTAT, Dashboard of EU Youth Indicators
http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/youth_policy/dashboard_youth

EUROSTAT, Labour market policy database
http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/labour_market_policy/database

OECD, Employment policies and data, Online OECD Employment database
http://www.oecd.org/employment/employmentpoliciesanddata/onlineoecdemploymentdatabase.htm#unr

OECD, Employment policies and data, Online OECD Employment database, Scoreboard on youth aged 15-24
http://www.oecd.org/els/employmentpoliciesanddata/scoreboard%20EN.xlsx

OECD 2012, Public expenditure on active labour market policies % of GDP, Employment and labour markets: Key tables from OECD http://www.oecd-ilibrary.org/employment/employment-and-labour-markets-key-tables-from-oecd_20752342

OECD, EAG 2012, Indicator C5, Table C5.2a. Percentage 15-29 year-olds in education and not in education (2010) Stat.Link
http://dx.doi.org/10.1787/888932667425

OECD Social, Employment and Migration Working Papers N° 112, 21 Oct 2010, Activation Policies in Switzerland by Nicola Duell, Peter Tergeist, Ursula Bazant, Sylvie Cimper http://dx.doi.org/10.1787/5km4hd7r28f6-en

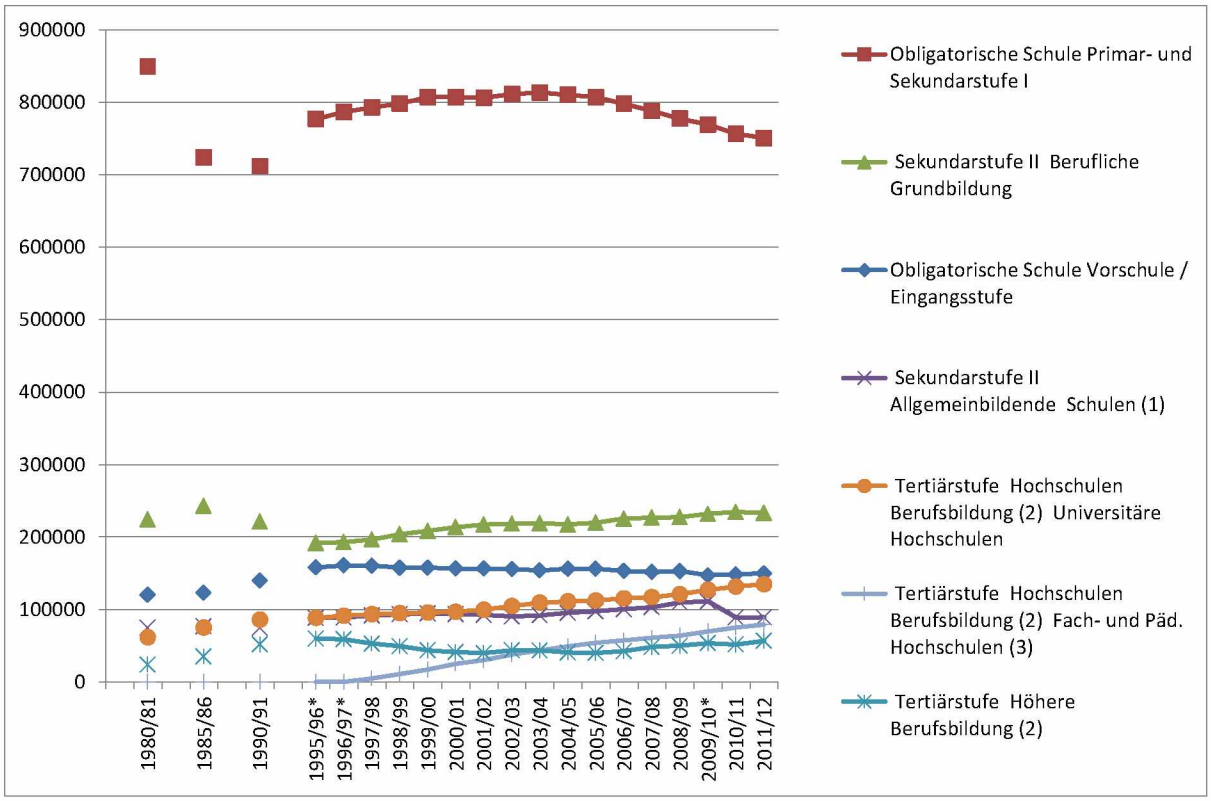
OECD (2010), Off to a Good Start? Jobs for Youth. Paris: OECD http://dx.doi.org/10.1787/9789264096127-en; see also
http://www.oecd.org/els/offtoagoodstartjobsforyouth.htm

ANNEX II Comparison of Austria and Switzerland

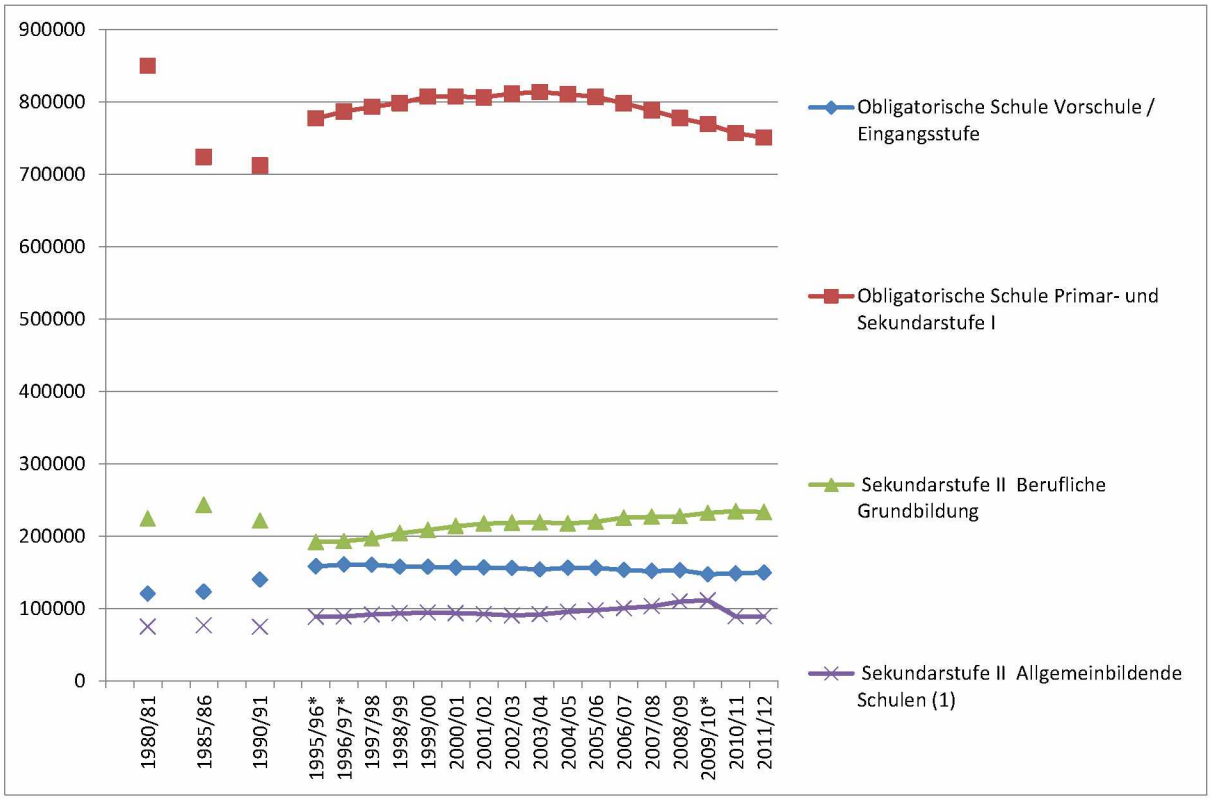
Content

A 34: Students CH total; up to secondary 1980-2011

CH: Alle Schulen und Hochschulen absolut (* Brüche in Zeitreihen)

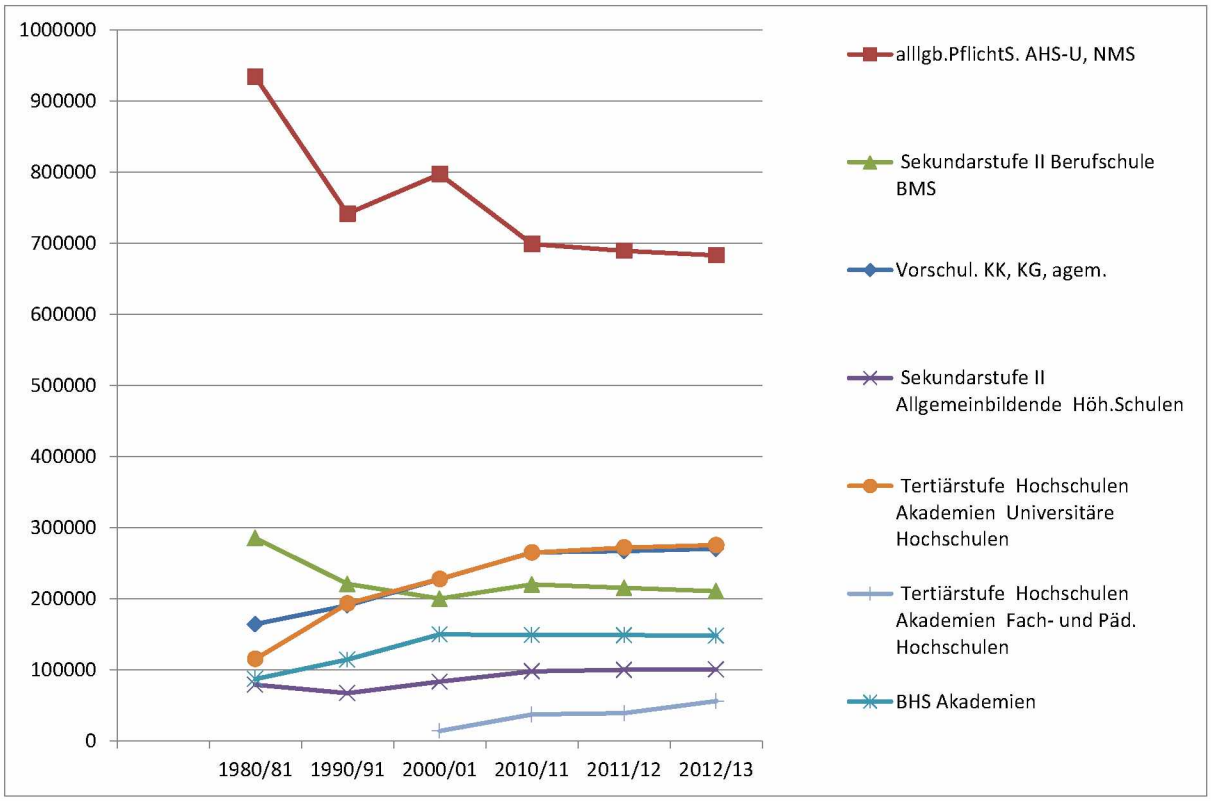


CH: Schulen bis SEK II

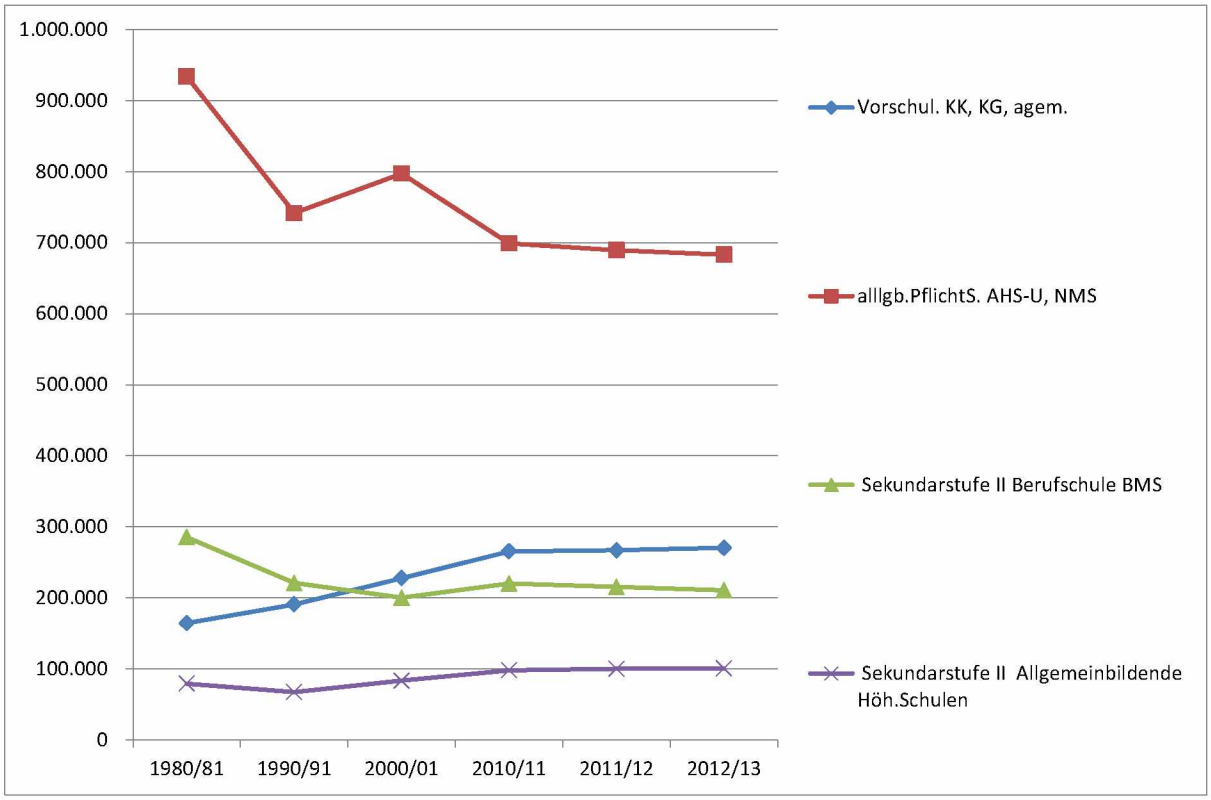


A 35: Students AT total; up to secondary 1980-2012

AT: Alle Schulen und Hochschulen absolut

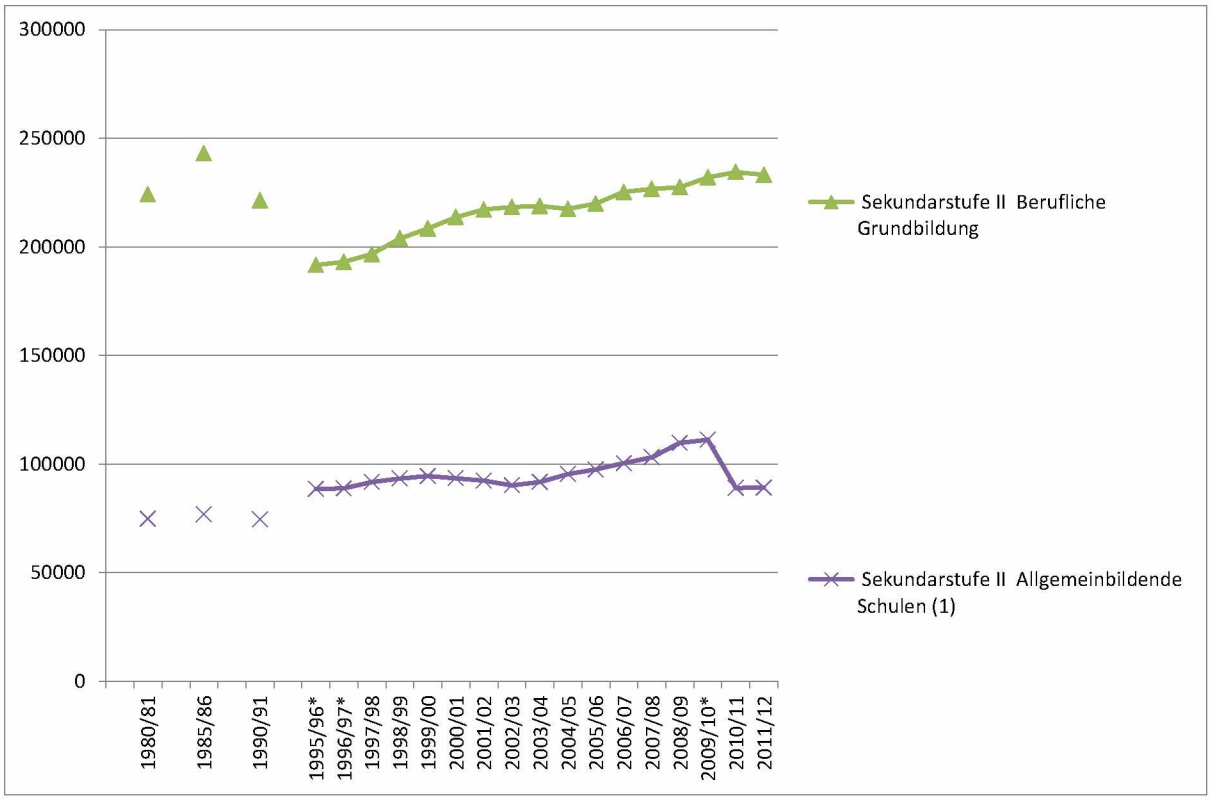


AT: Schulen bis SEK II

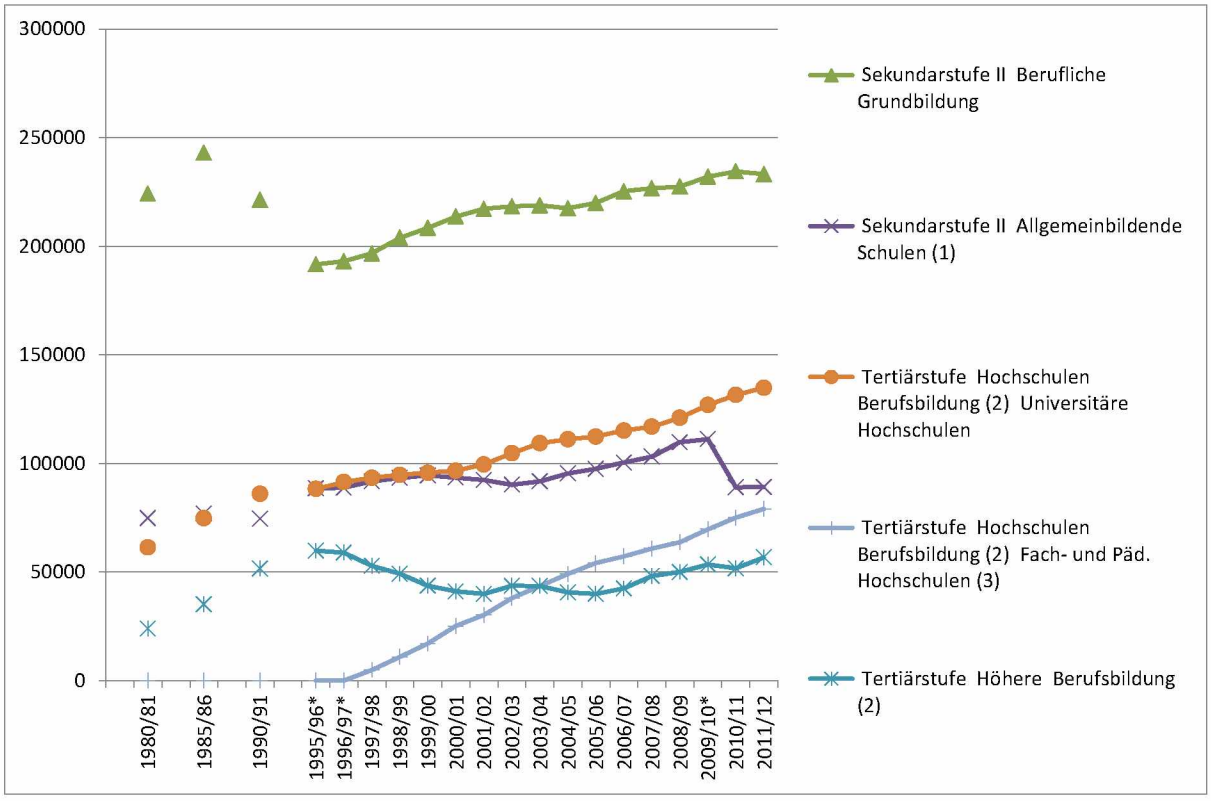


A 36: Students CH upper secondary and tertiary 1980-2011

CH: SEK II Allgemeinbildung und berufliche Grundbildung

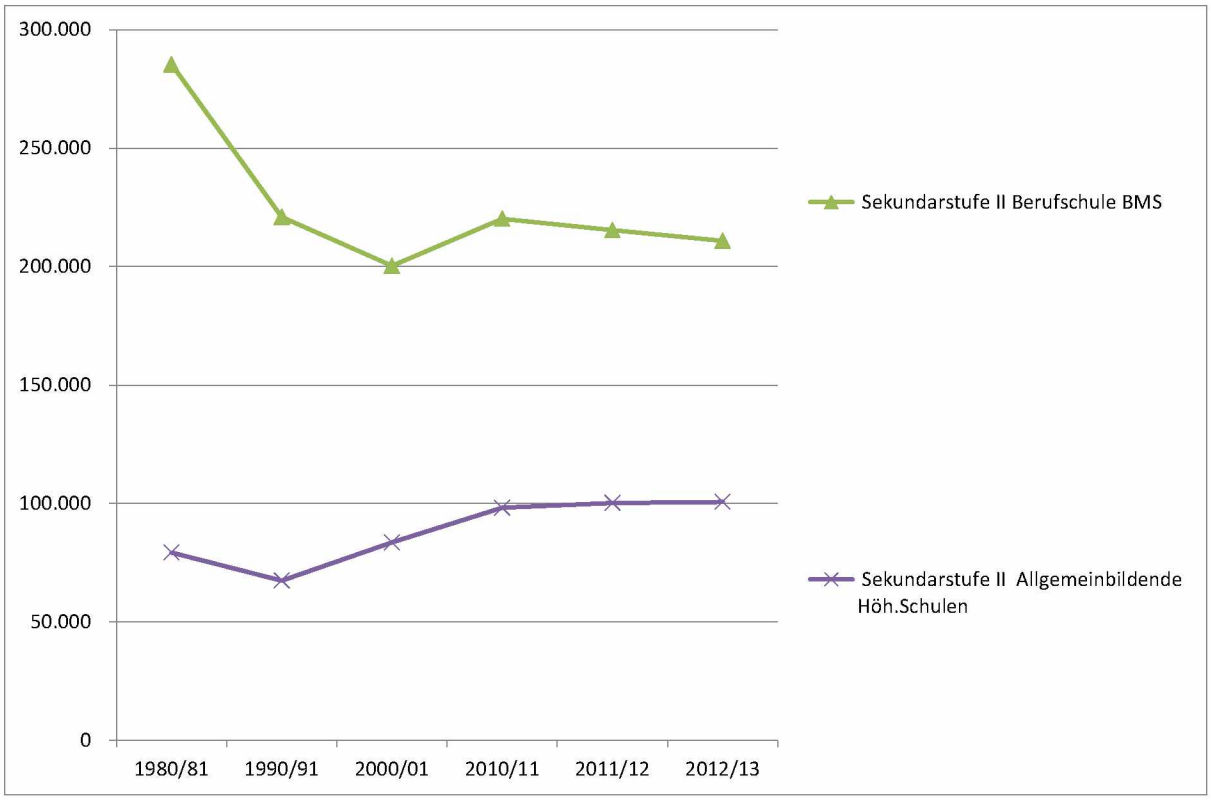


CH: SEK II und Tertiärbildung

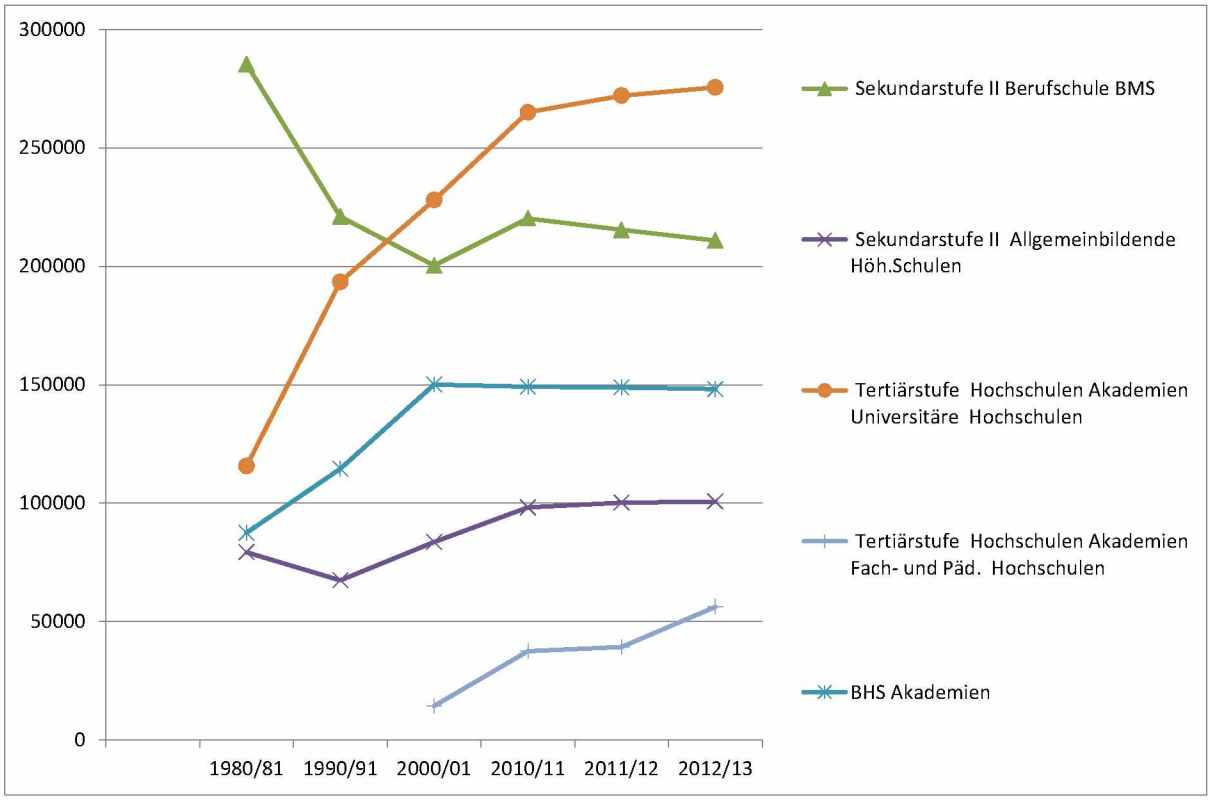


A 37: Students AT upper secondary and tertiary 1980-2012

AT: SEK II Allgemeinbildung und berufliche Grundbildung

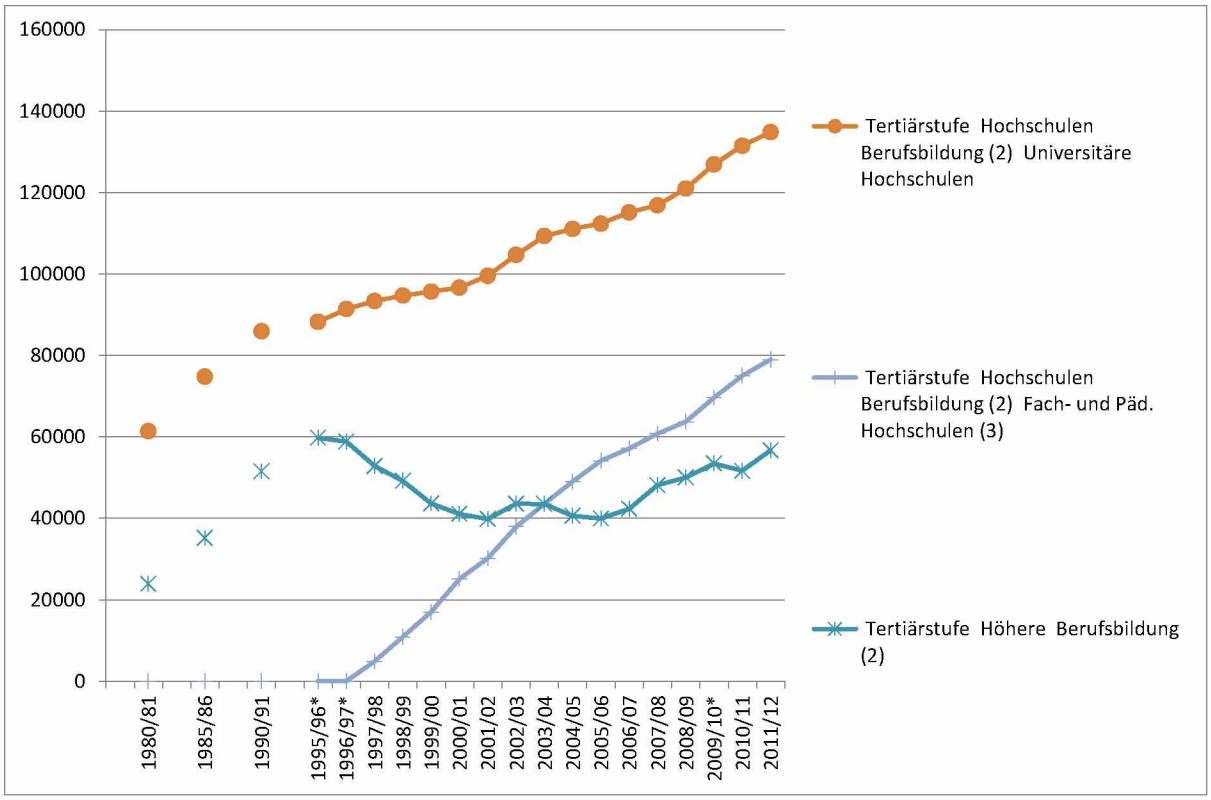


AT: SEK II und Tertiärbildung

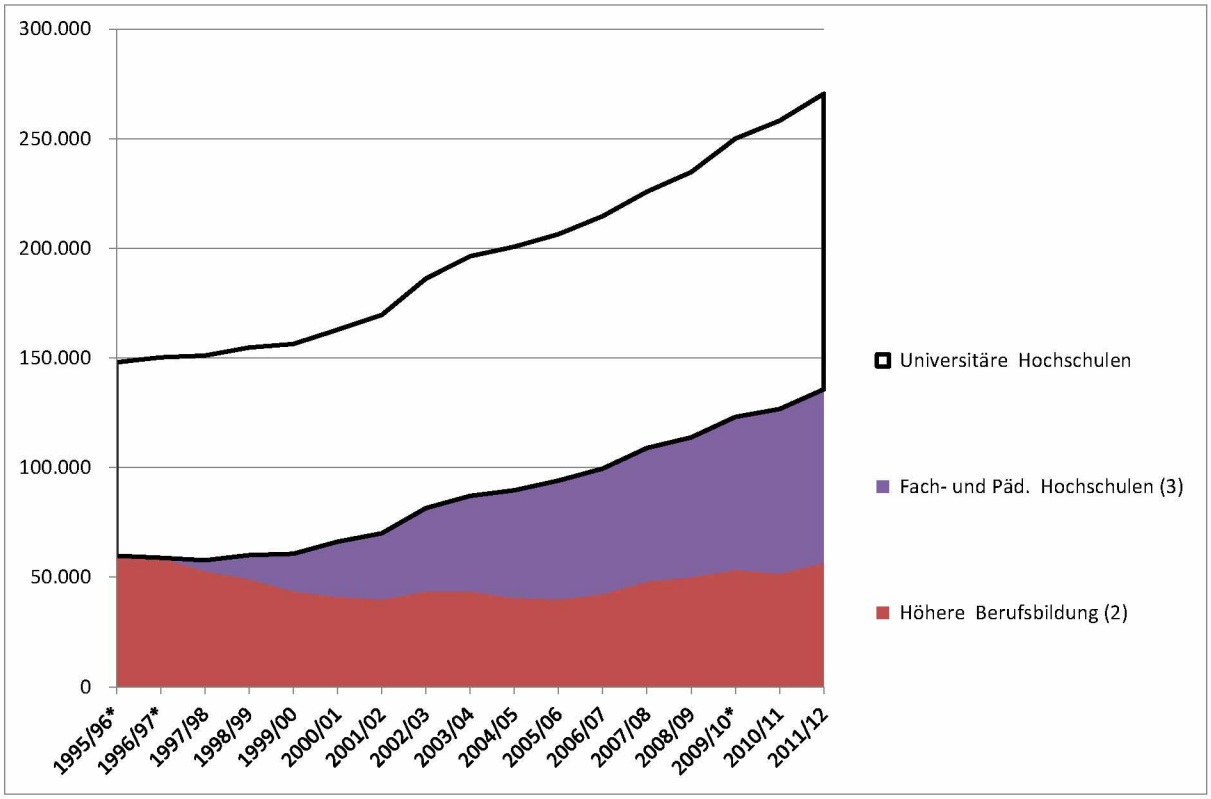


A 38: Students CH tertiary 1980-2011, Fachhochschule 1995-2011

CH: Tertiärbildung

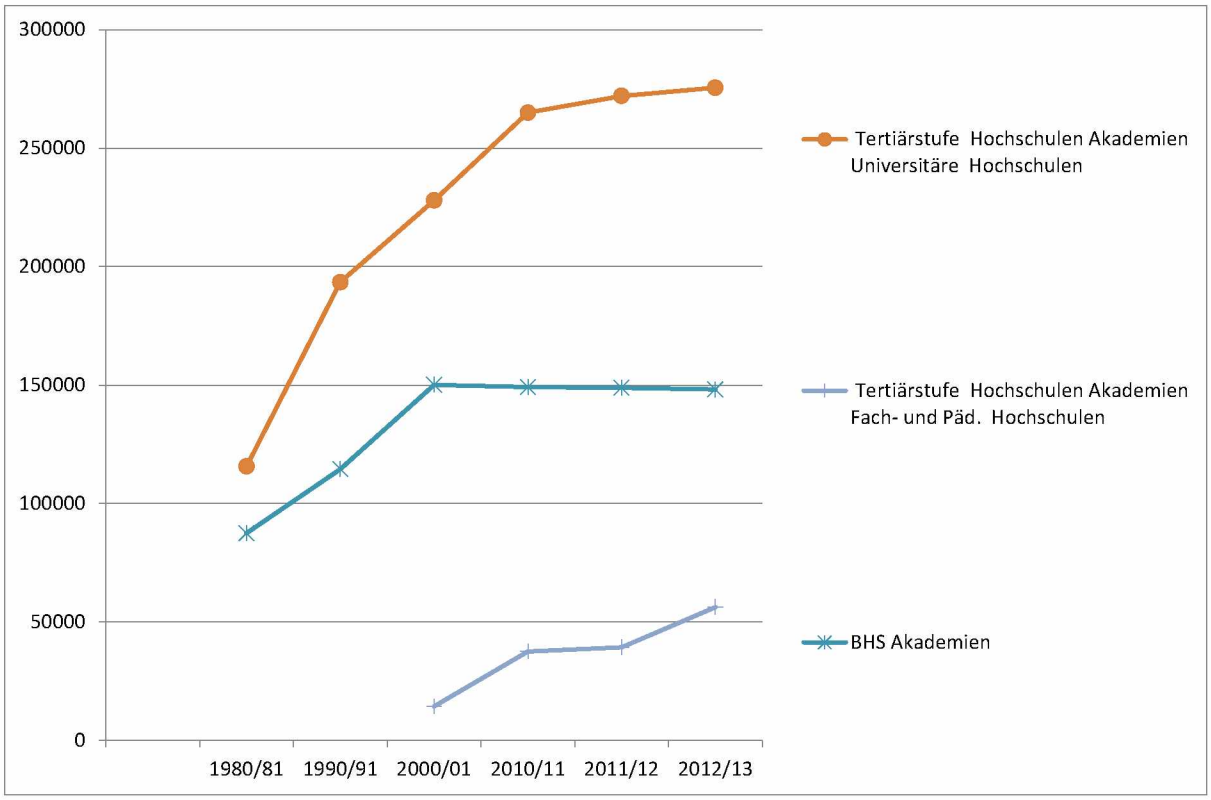


CH: Aufbau der Fachhochschulen

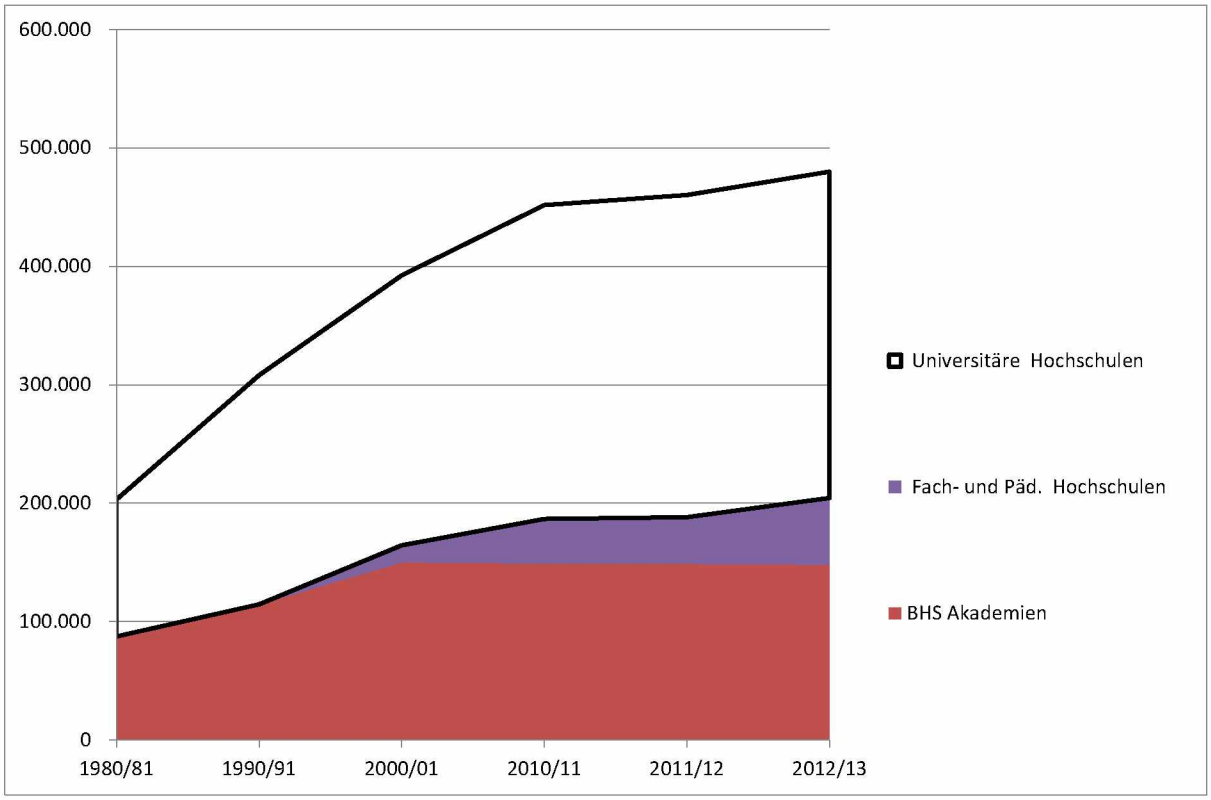


A 39: Students AT tertiary 1980-2012, Fachhochschule 1990-2011

AT: Tertiärbildung

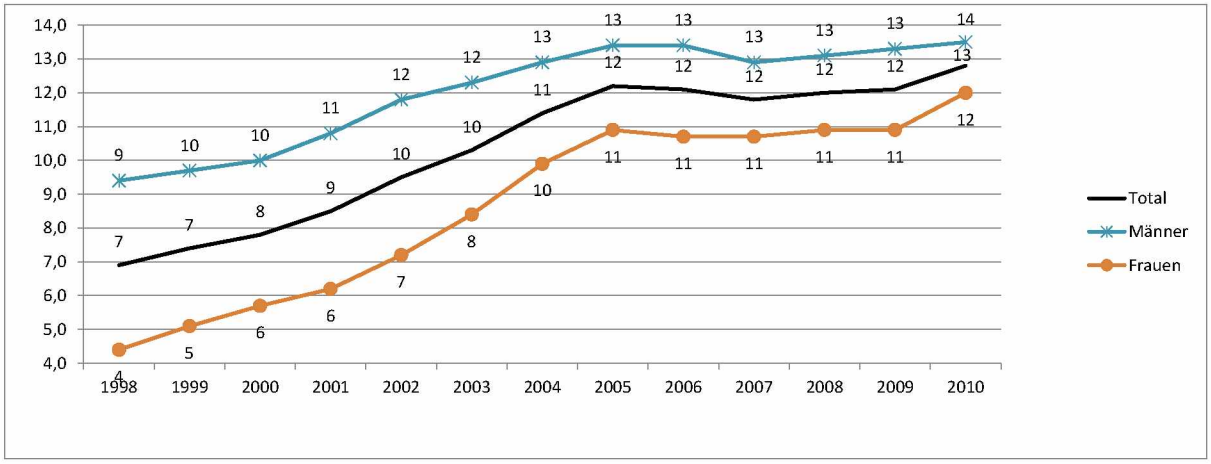


AT: Aufbau der FH

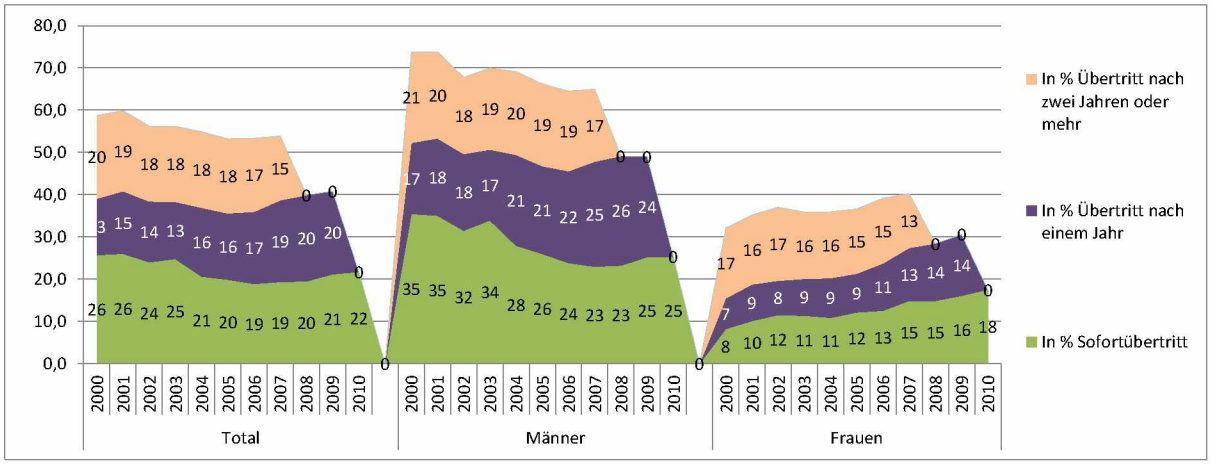


A 40: CH Vocational Maturity (Berufsmaturitätsquote), transitions into FH

Die Berufsmaturitätsquote* entspricht dem Anteil Personen, die ein Berufsmaturitätszeugnis erworben haben, gemessen an der 21-jährigen ständigen Wohnbevölkerung der Schweiz (Durchschnittsalter der Berufsmaturand/innen). Die Berufsmaturität ist derzeit der Hauptzugangsweg zu den FH, obschon auch andere Abschlüsse zum Eintritt in Hochschulen dieses Typs berechtigen (z.B. gymnasiale Maturitäten für die PH). Die Berufsmaturität erlaubt auch – nach Ablegen einer Ergänzungsprüfung - den Zugang zu den universitären Hochschulen. http://www.bfs.admin.ch/bfs/portal/de/index/themen/15/06/dos/blank/05/02.html

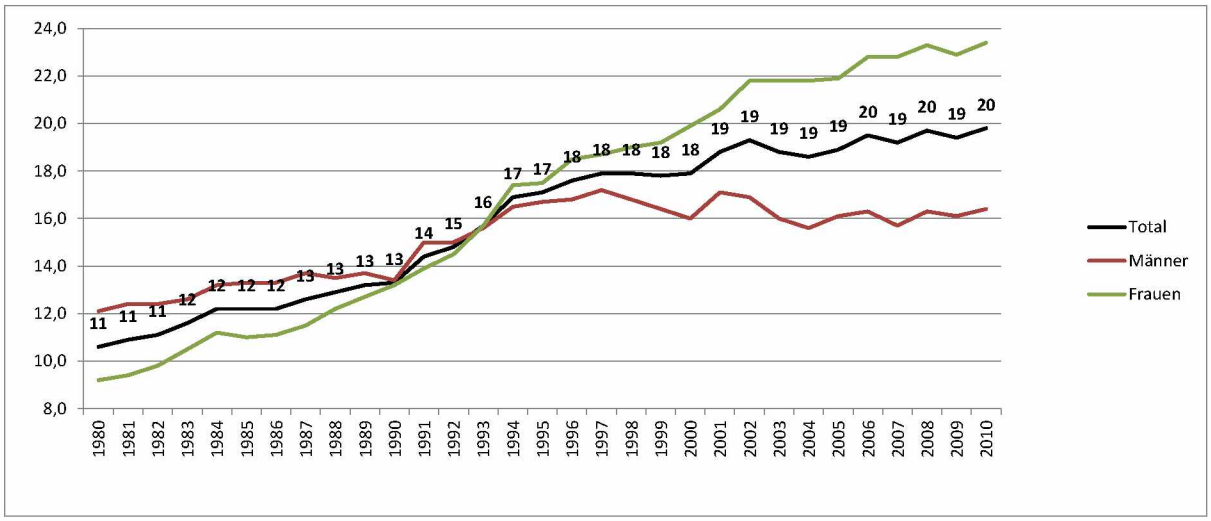


Übertritte aus Berufsmaturität in FH

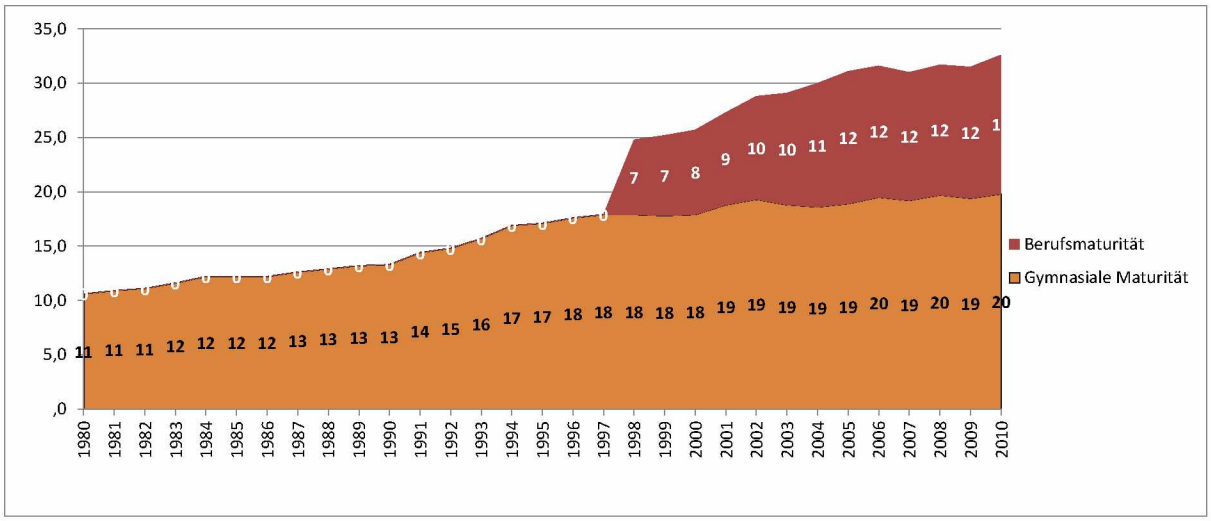


A 41: CH Academic Maturity (Gymnasiale Maturitätsquote), Vocational Maturity

Gymnasiale Maturitätsquote

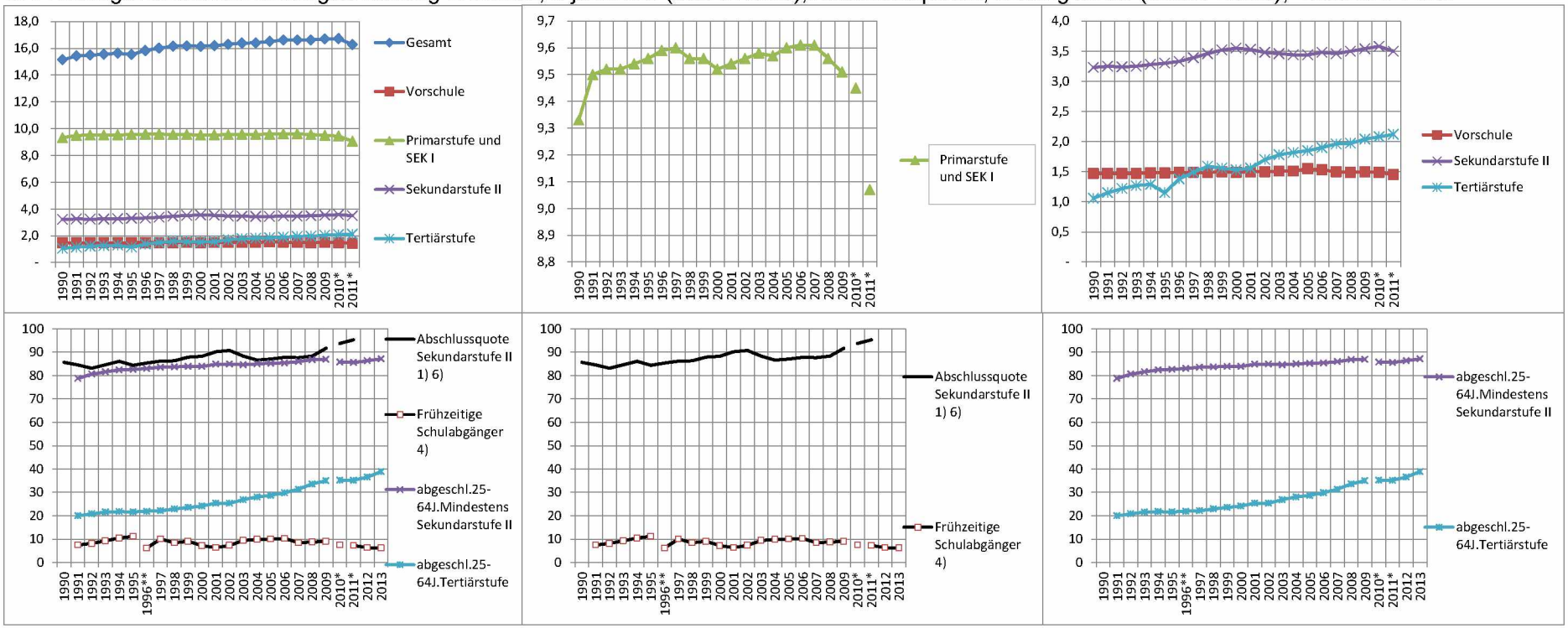


Gymnasiale Maturität und Berufsmaturität



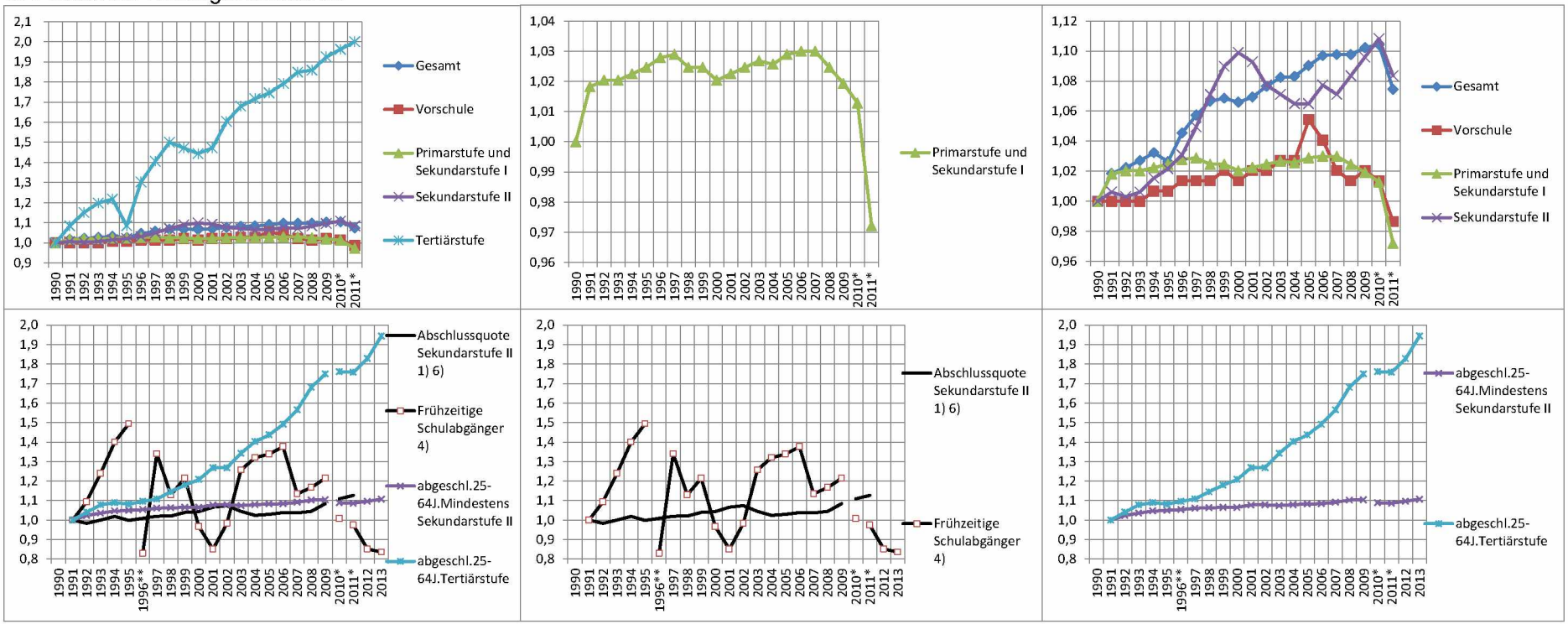
A 42: CH educational indicators, mixed 1990-2011

CH: Bildungsindikatoren: Bildungserwartung in Jahren, 5-jähr.Kind (obere Reihe), Abschlussquoten, Bildung d.Bev (untere Reihe), *Brüche in Zeitr.



A 43: CH educational indicators (mixed), Index 1990=1,00

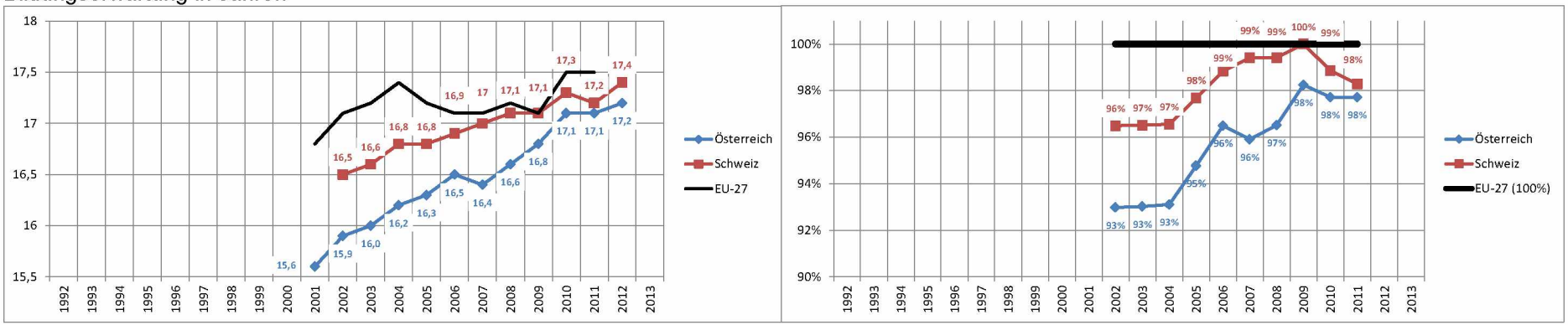
CH: Index der Bildungsindikatoren



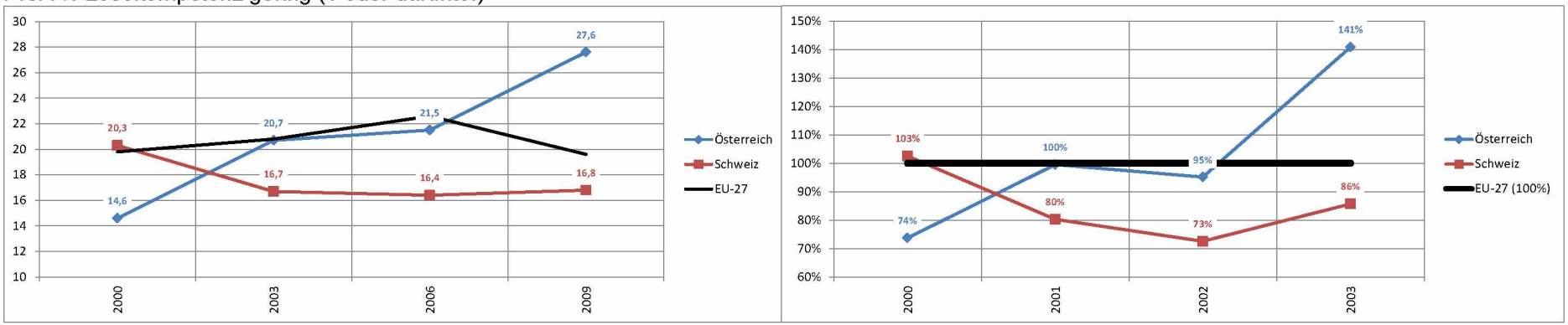
A 44: EUROSTAT comparisons CH-AT-EU27: career-expectation, PISA-reading, participation pre-prim, 18y

Eurostat, Vergleiche Schweiz Österreich EU27

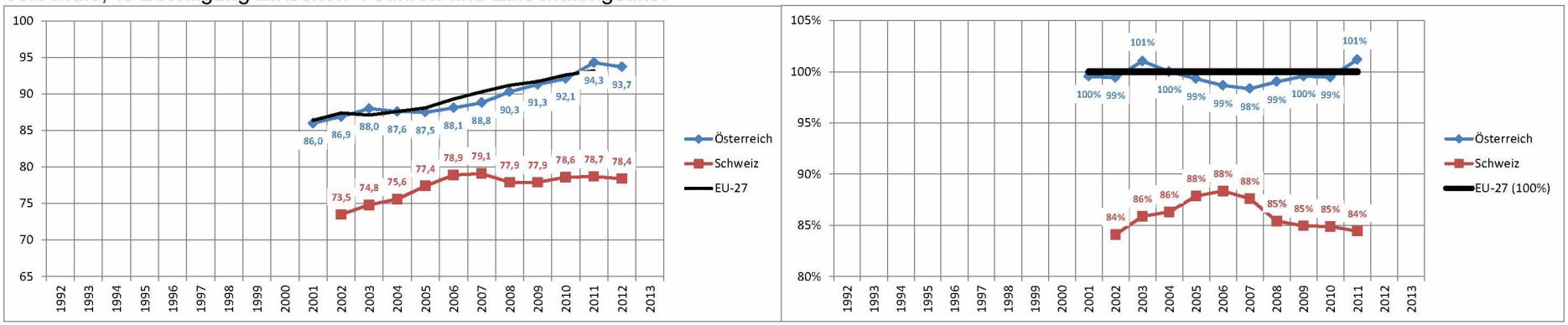
Bildungserwartung in Jahren



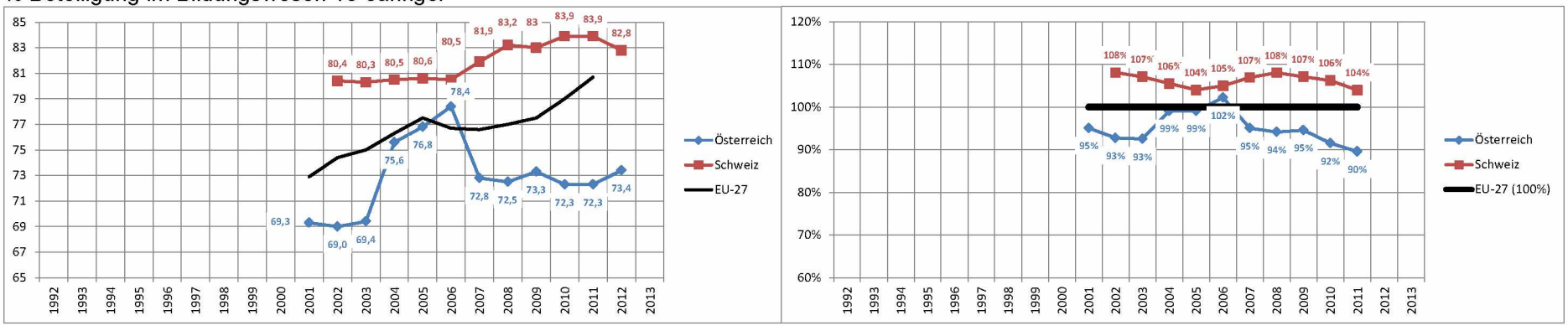
PISA % Lesekompetenz gering (1 oder darunter)



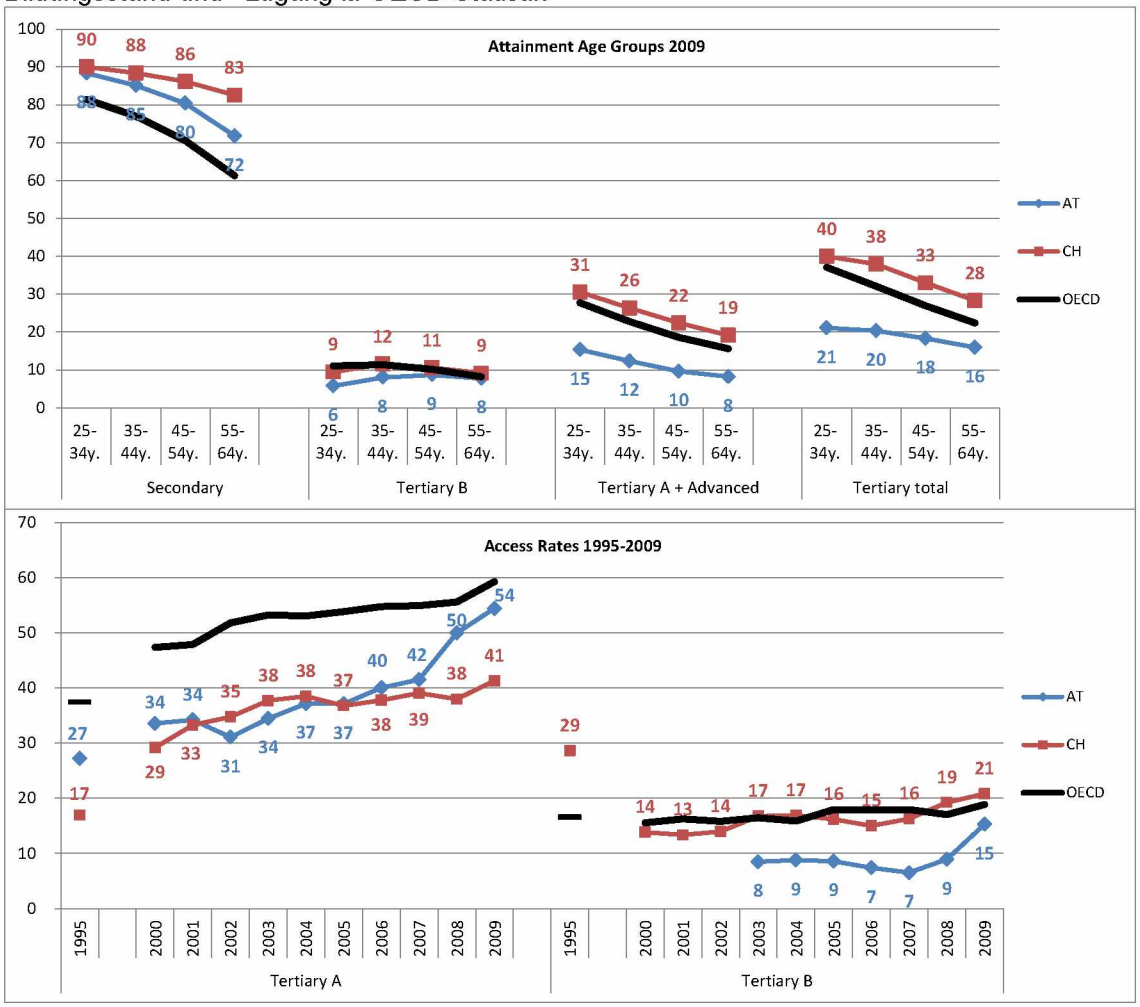
Vorschule, % Beteiligung zwischen 4 Jahren und Einschulungsalter



% Beteiligung im Bildungswesen 18-Jähriger

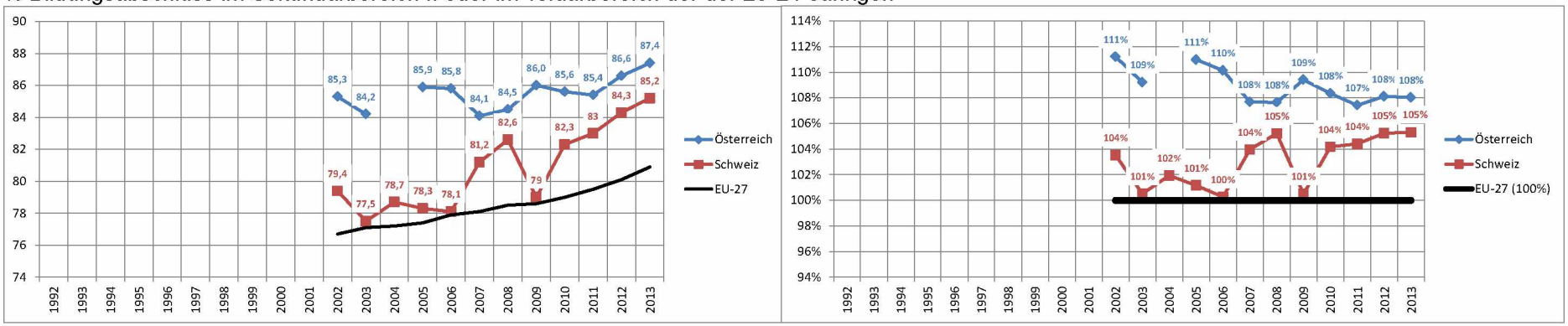


A 45: OECD-statistics attainment and access CH-AT-OECD (age groups 2009, 1995-2009)
Bildungsstand und –zugang lt. OECD Statistik

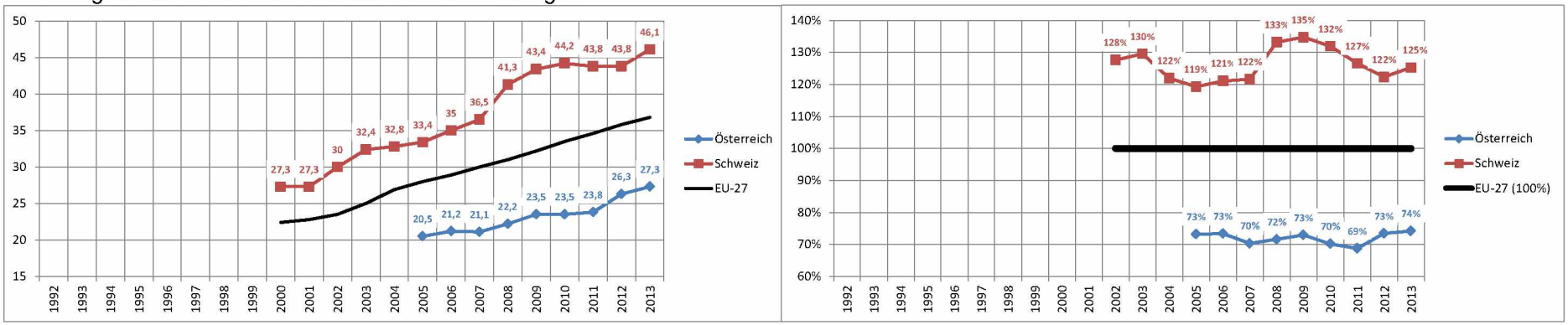


A 46: EUROSTAT completion-rates, early school leavers CH-AT-EU27 (different periods up to 2013)

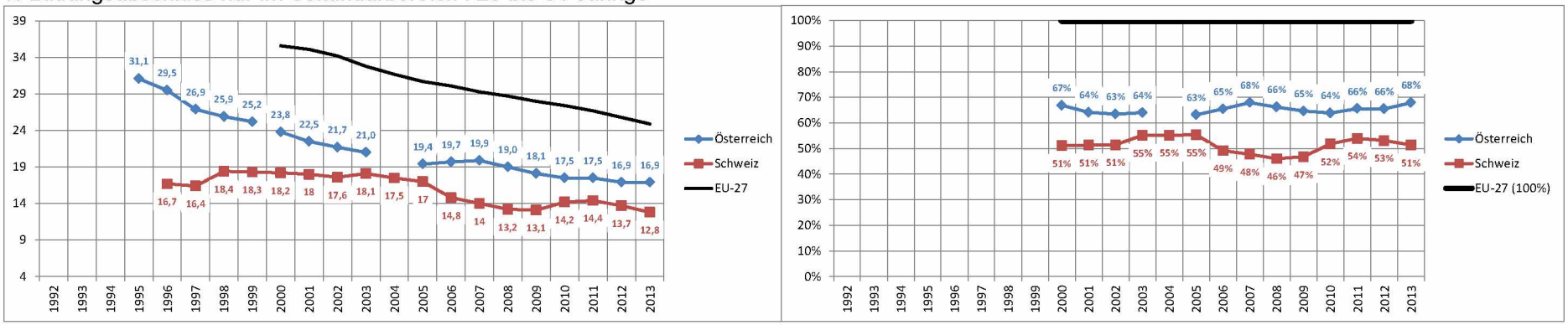
% Bildungsabschluss im Sekundarbereich II oder im Tertiärbereich der der 20-24-Jährigen



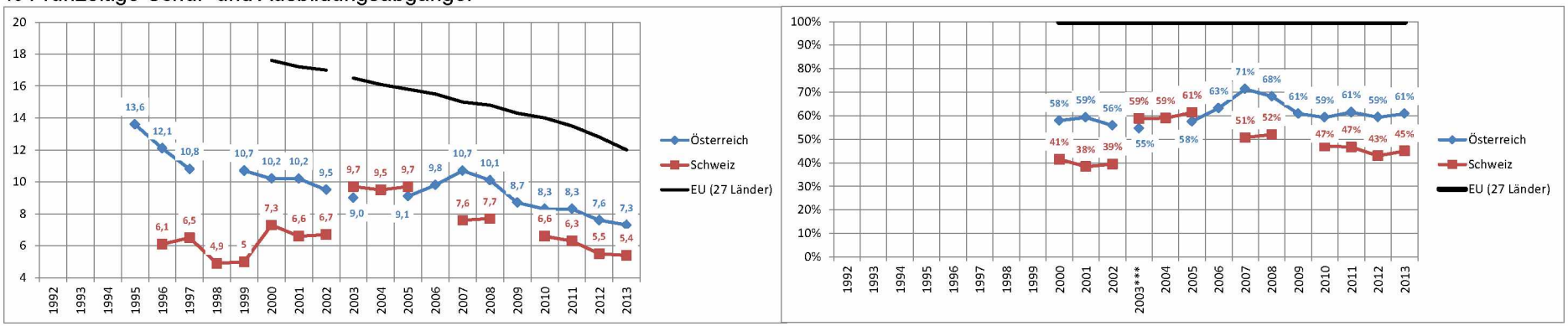
% Bildungsabschluss im Tertiärbereich der 30-34-Jährigen



% Bildungsabschluss nur im Sekundarbereich I 25 bis 64-Jährige

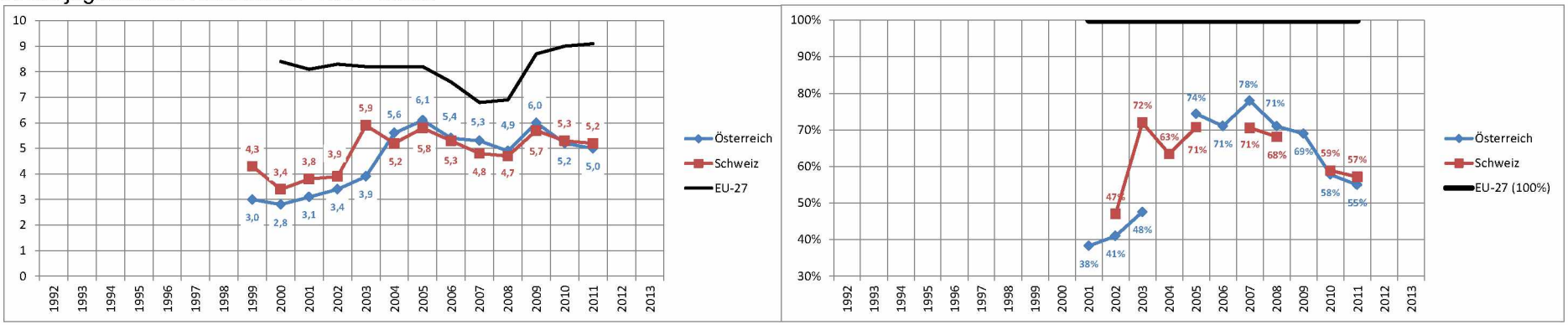


% Frühzeitige Schul- und Ausbildungsabgänger

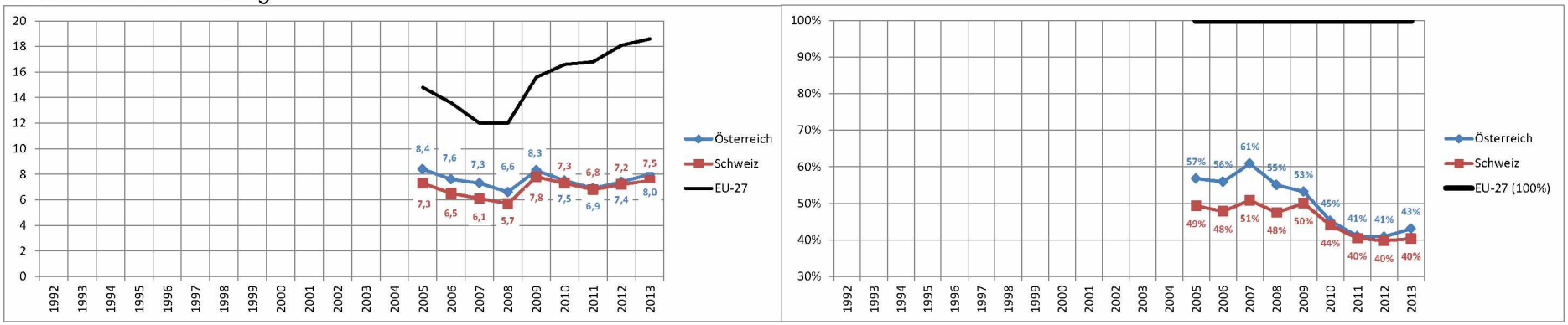


A 47: EUROSTAT unemployed young people CH-AT-EU27 (different time periods)

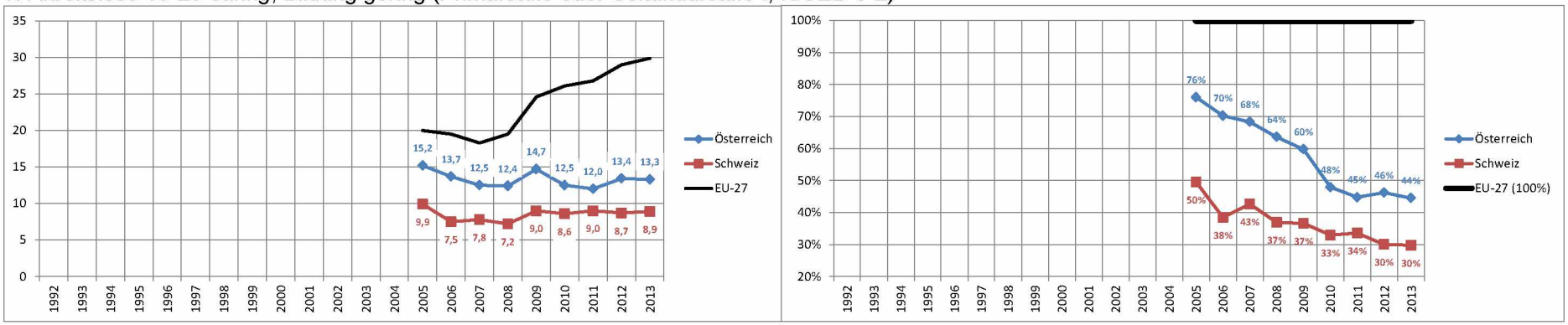
Anteil jugendlicher Arbeitsloser 15-24 Jahre



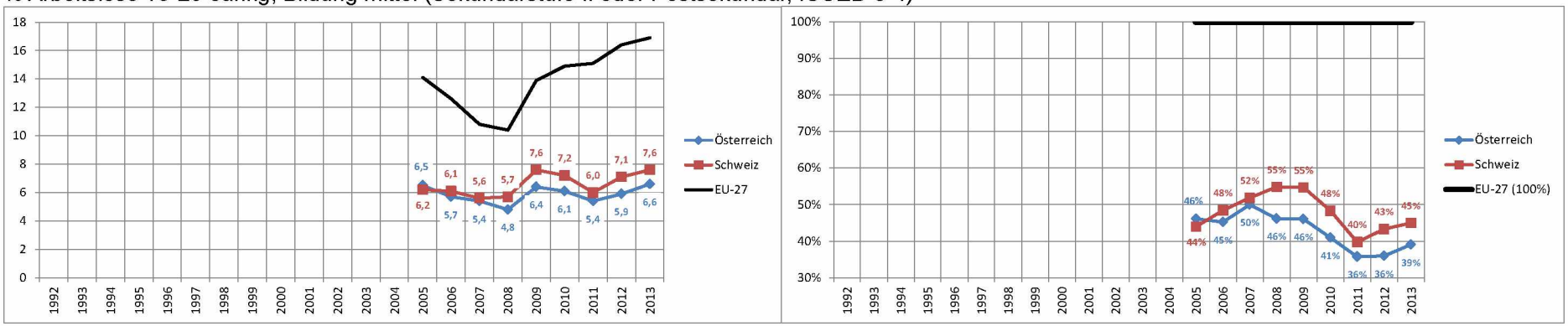
% Arbeitslose 15-29-Jährig



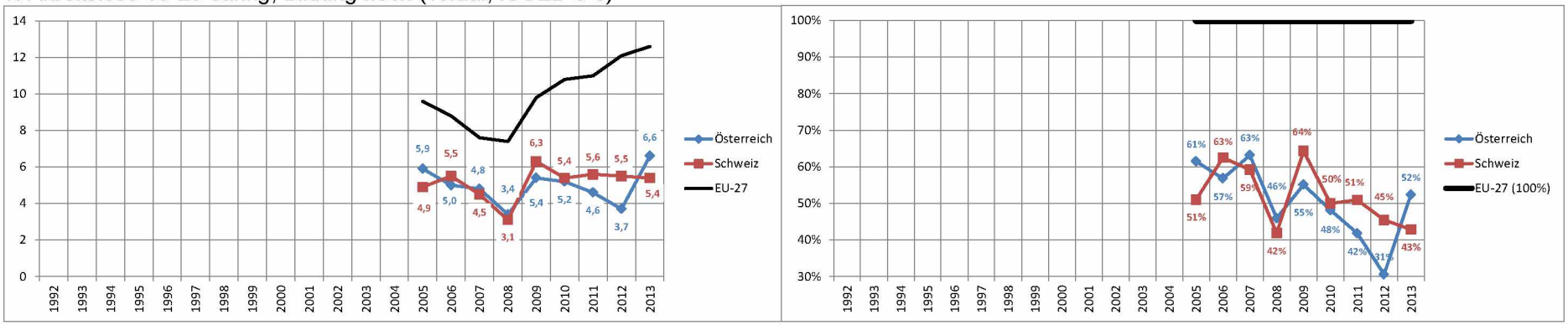
% Arbeitslose 15-29-Jährig, Bildung gering (Primarstufe oder Sekundarstufe I, ISCED 0-2)



% Arbeitslose 15-29-Jährig, Bildung mittel (Sekundarstufe II oder Postsekundär, ISCED 3-4)

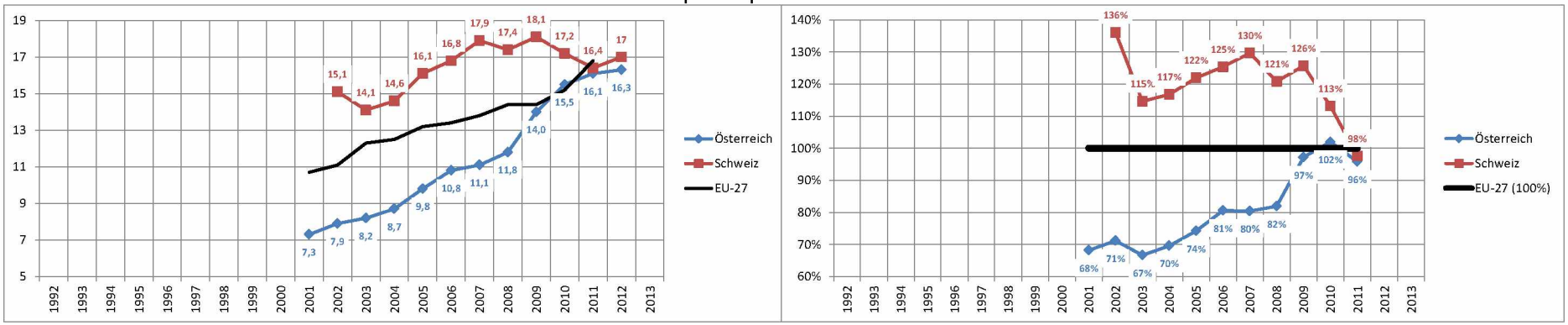


% Arbeitslose 15-29-Jährig, Bildung hoch (Tertiär, ISCED 5-6)



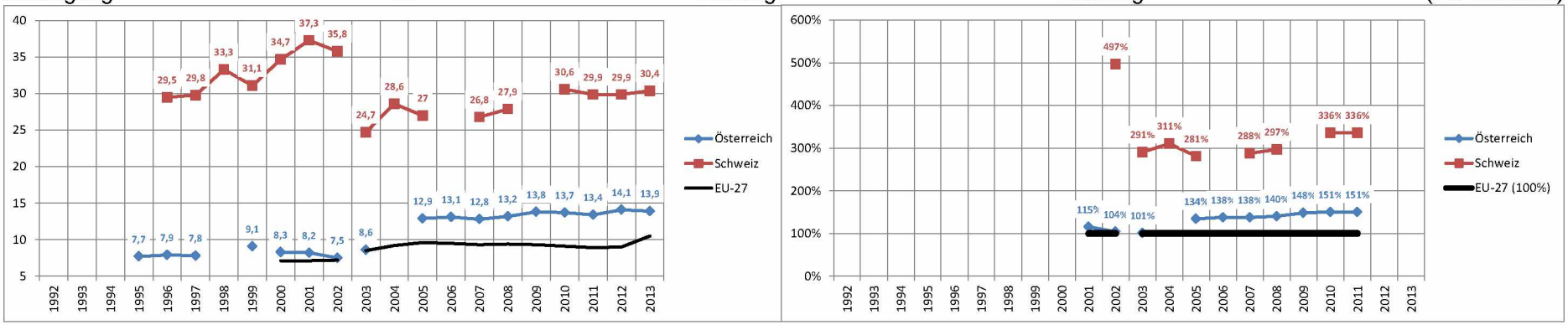
A 48: EUROSTAT graduates from ST-studies CH-AT-EU27 (different periods up up to 2013)

Anteil der Absolventen naturwissenschaftlicher und technischer Disziplinen pro 1 000 Einwohner im Alter von 20-29 Jahren



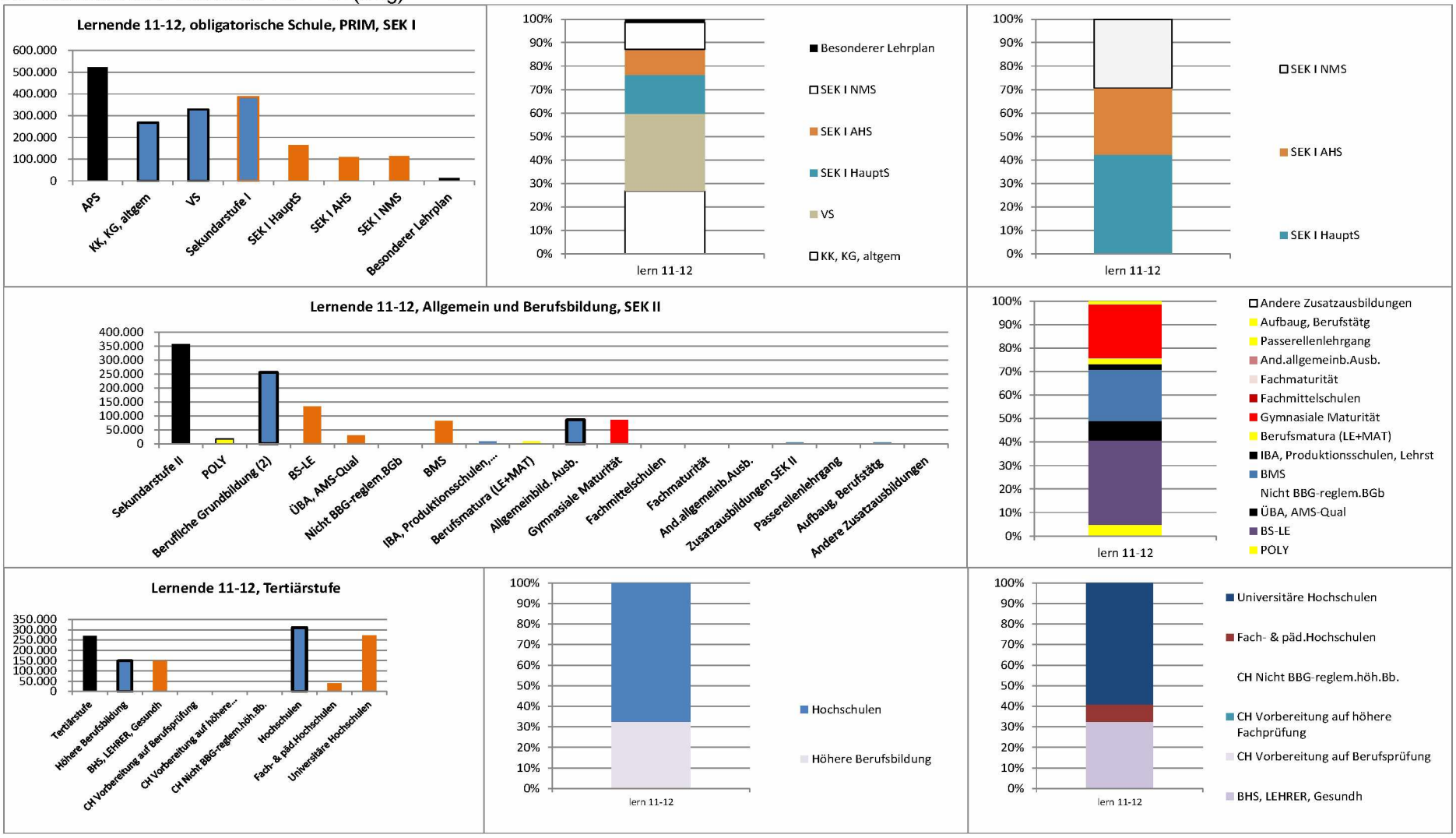
A 49: EUROSTAT participation lifelong learning CH-AT-EU27 (different periods up to 2013)

Beteiligung im Lifelong Learning (EU-Indikator)



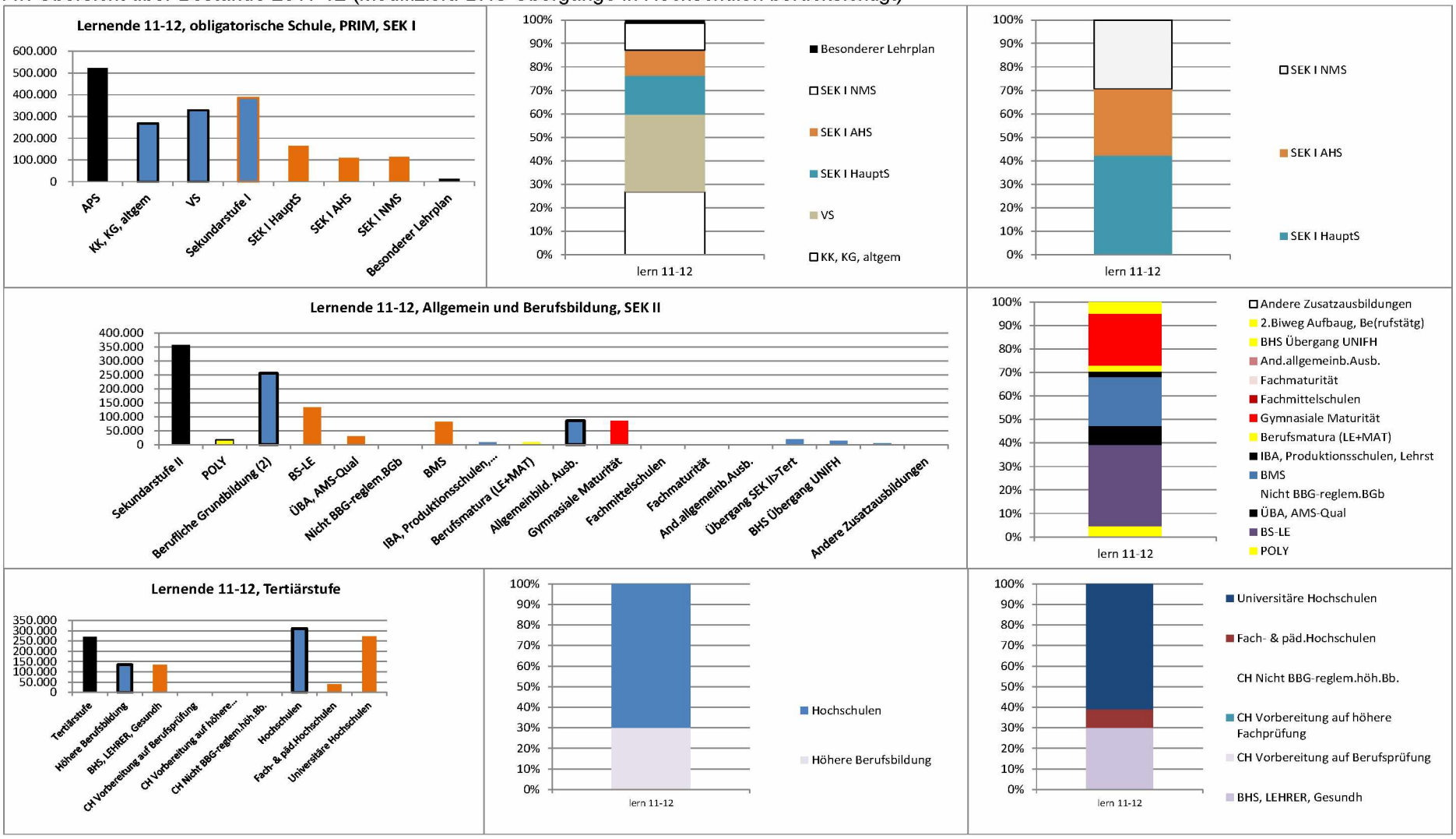
A 50: AT stock of students by institutions, programmes (original data) 2011-12

AT: Übersicht über Bestände 2011-12 (Orig)



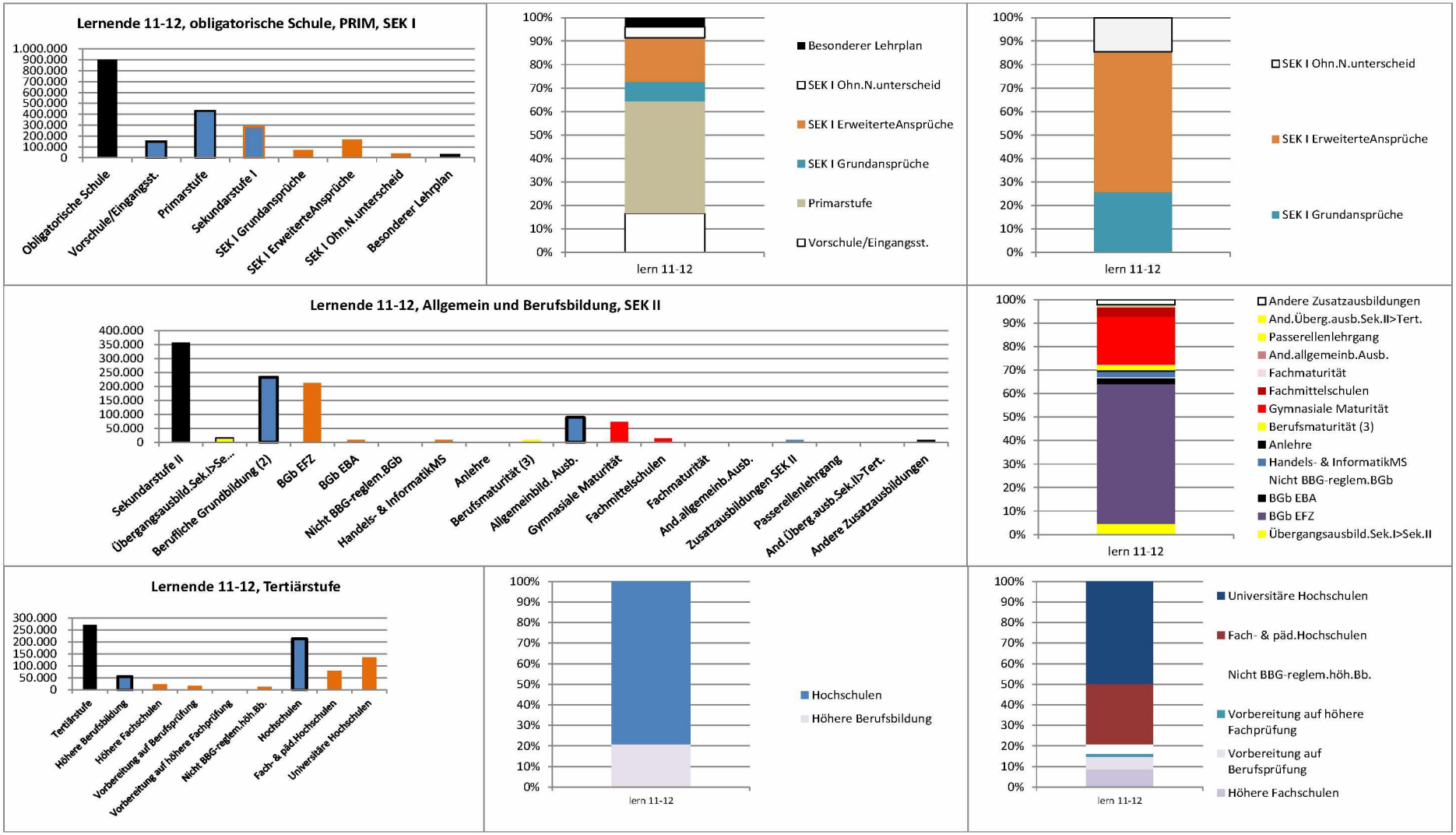
A 51: AT stock of students by institutions, programmes (modified) 2011-12

AT: Übersicht über Bestände 2011-12 (Modifiziert: BHS Übergänge in Hochschulen berücksichtigt)



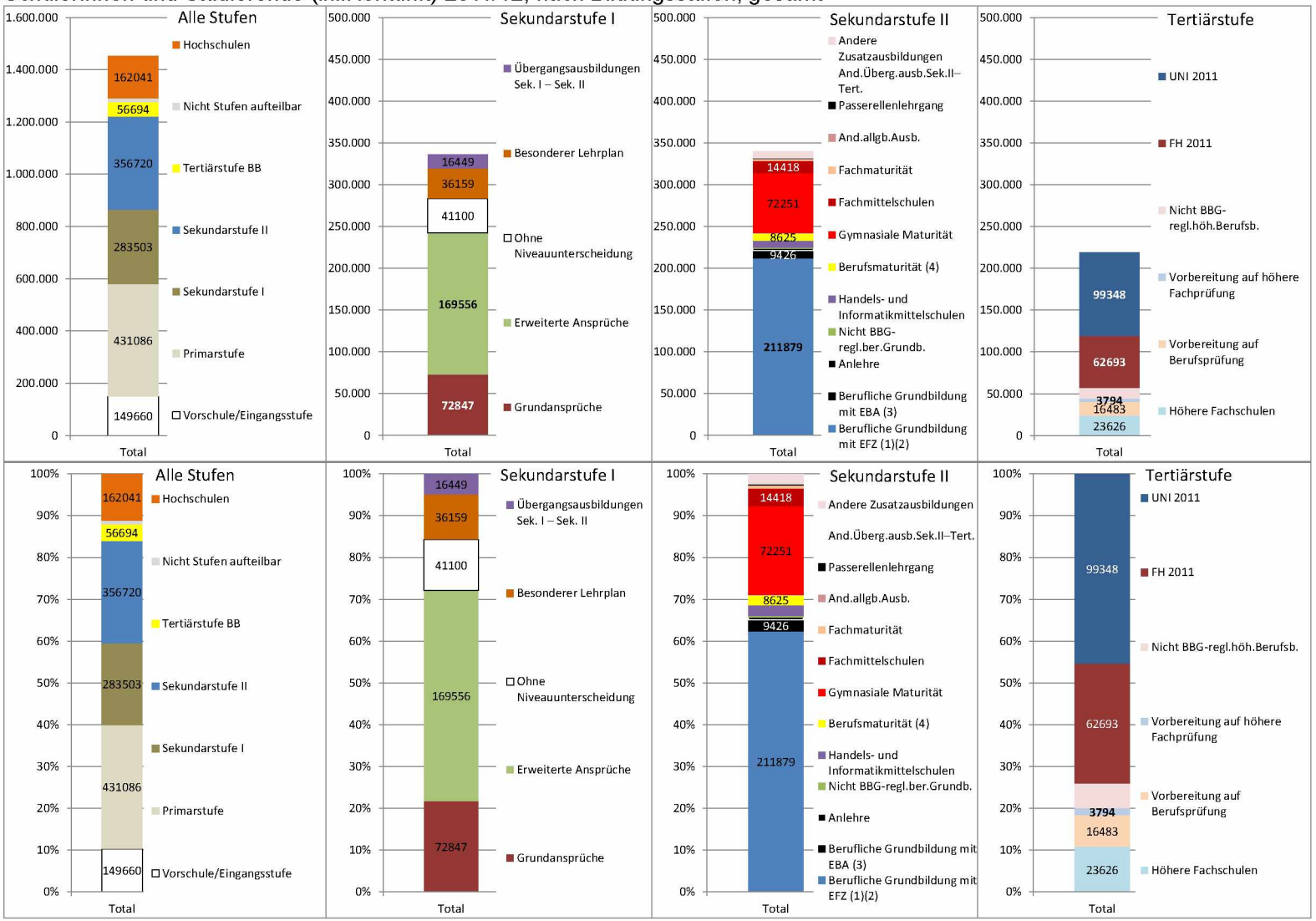
A 52: CH stock of students by institutions, programmes 2011-12

CH: Übersicht über Bestände 2011-12



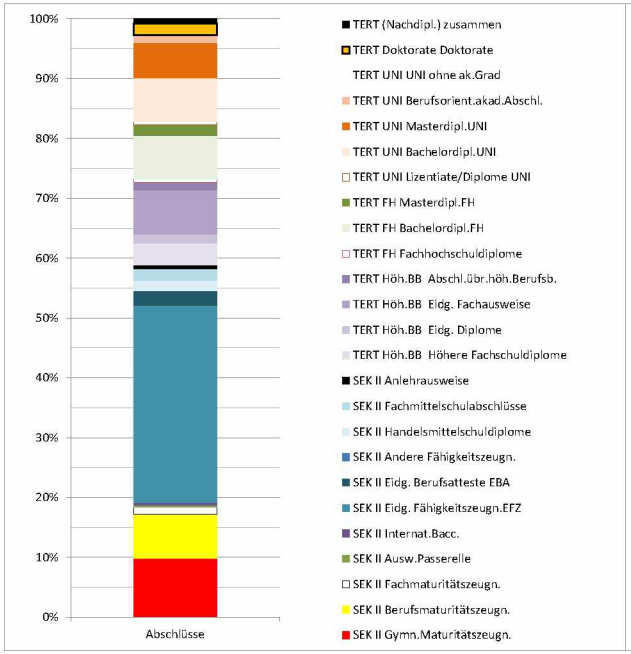
A 53: CH students by institutions, programmes and levels 2011-12, absolute and %

SchülerInnen und Studierende (inl.Herkunft) 2011/12, nach Bildungsstufen, gesamt

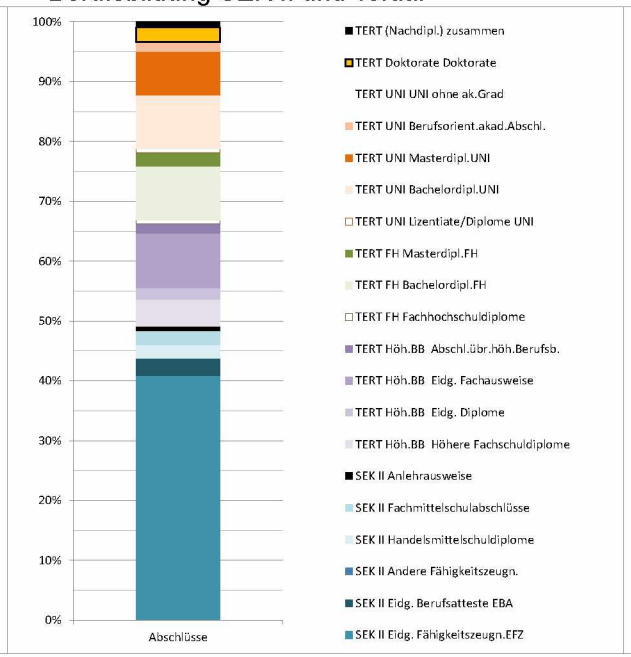


A 54: CH completions/credentials by institutions, programmes and levels 2011-12, absolute and %

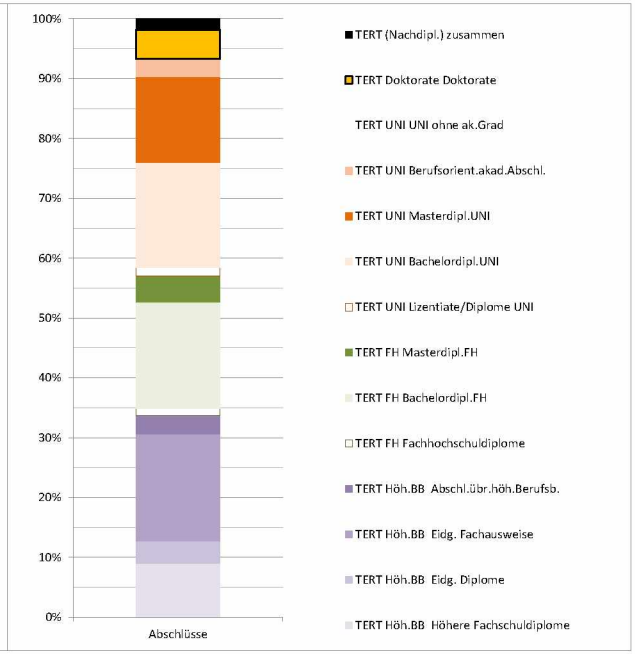
Abschlüsse: Gesamt ab SEK II



Berufsbildung SEK II und Tertiär

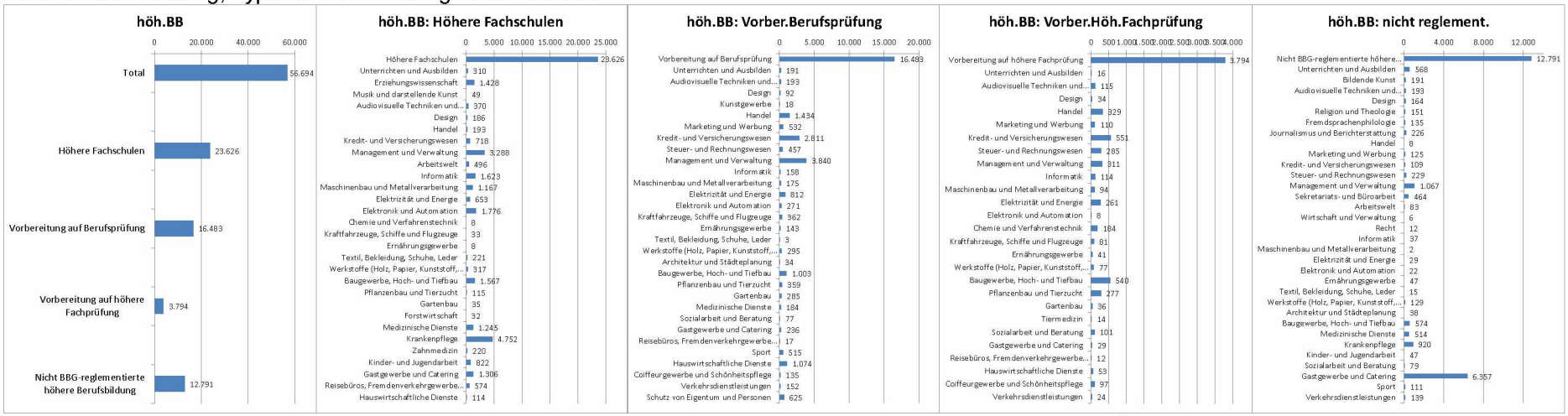


Tertiär

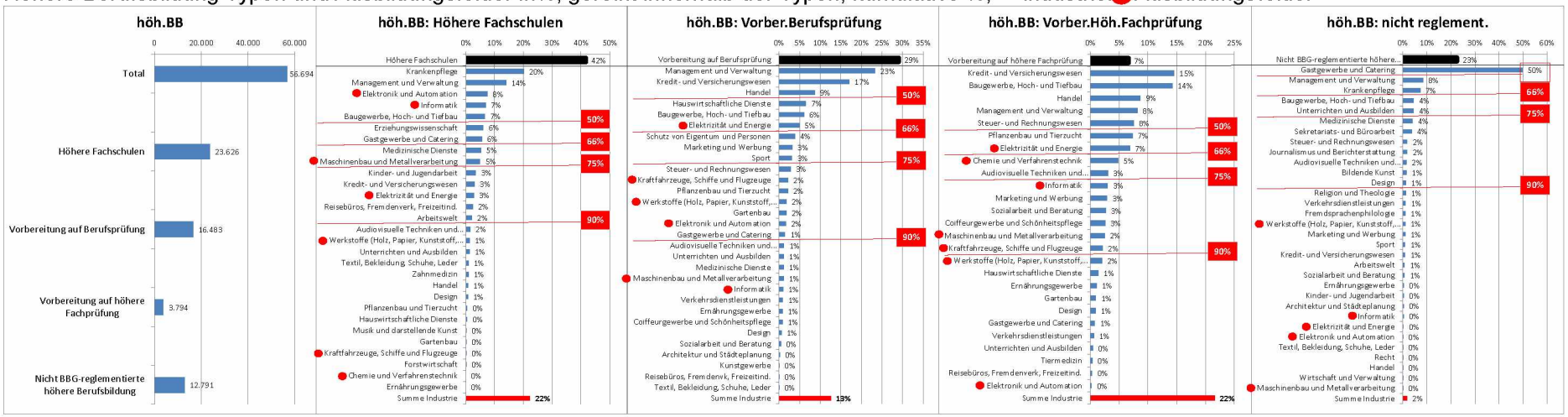


A 55: CH higher VET by institutions, programmes and levels/exams 2011-12, absolute and %

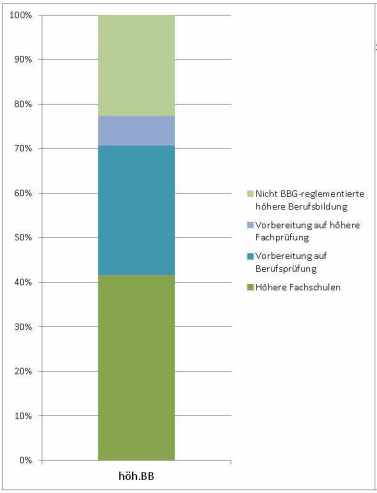
Höhere Berufsbildung, Typen und Ausbildungsfelder absolut

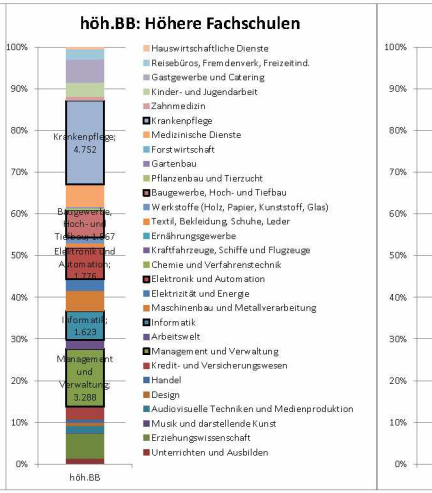


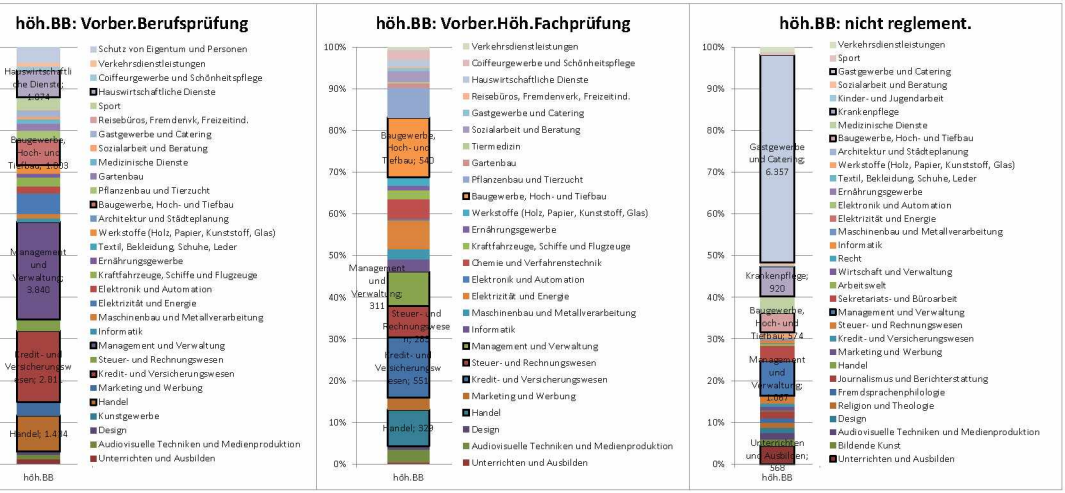
Höhere Berufsbildung Typen und Ausbildungsfelder in%, gereiht innerhalb der Typen, kumulative %, industriell Ausbildungsfelder



Höhere Berufsbildung, Typen und größte 5 Ausbildungsfelder

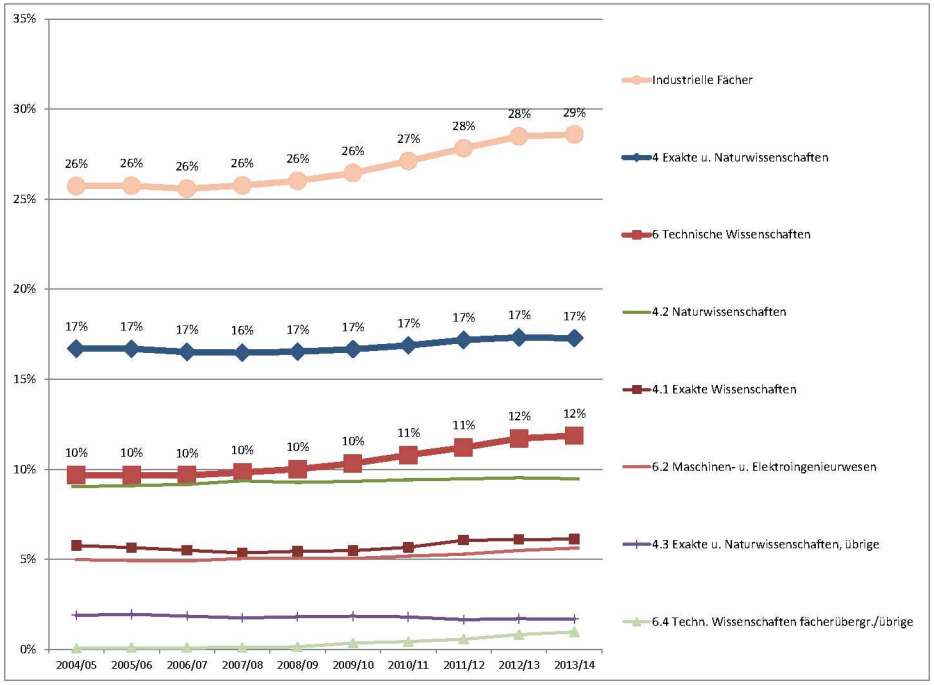


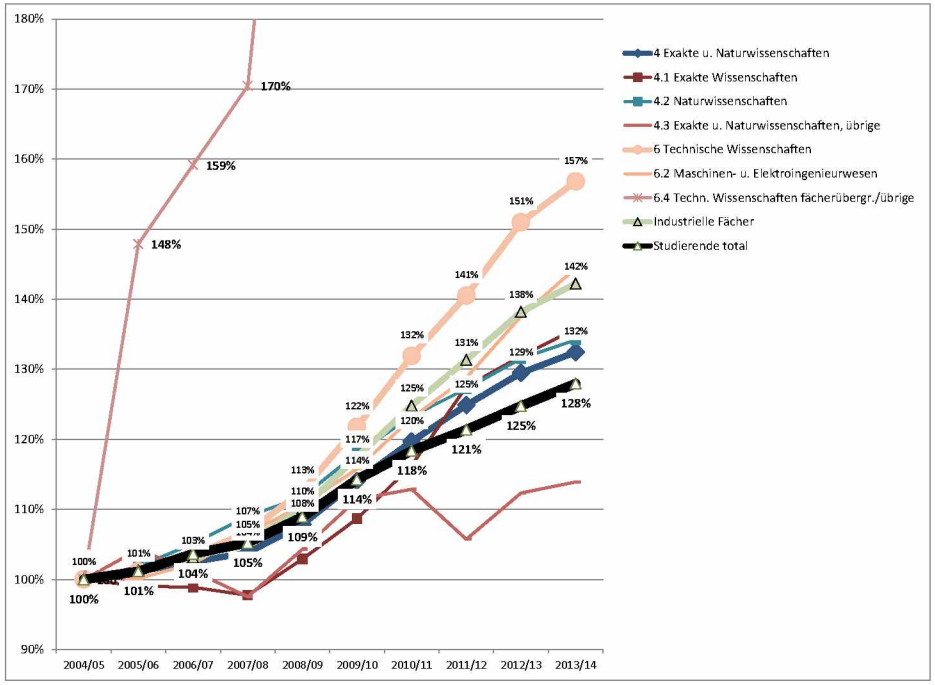



höh.BB: Vorber.Berufsprüfung
Hauswirtschaftli che Dienste; 1.874
Baugewerbe, Hoch- und Tiefbau; 1.993
Management und Verwaltung; 3.840
Kredit- und Versicherungsw esen; 2.81
Handel; 1.494
höh.BB
Schutz von Eigentum und Personen
Verkehrsdienstleistungen
Coiffeurgewerbe und Schönheitspflege
Hauswirtschaftliche Dienste
Sport
Reisebüros, Fremdenvk, Freizeitind.
Gastgewerbe und Catering
Sozialarbeit und Beratung
Medizinische Dienste
Gartenbau
Pflanzenbau und Tierzucht
Baugewerbe, Hoch- und Tiefbau
Architektur und Städteplanung
Werkstoffe (Holz, Papier, Kunststoff, Glas)
Textil, Bekleidung, Schuhe, Leder
Ernährungsgewerbe
Kraftfahrzeuge, Schiffe und Flugzeuge
Elektronik und Automation
Elektrizität und Energie
Maschinenbau und Metallverarbeitung
Informatik
Management und Verwaltung
Steuer- und Rechnungswesen
Kredit- und Versicherungswesen
Marketing und Werbung
Handel
Kunstgewerbe
Design
Audiovisuelle Techniken und Medienproduktion
Unterrichten und Ausbilden
höh.BB: Vorber.Höh.Fachprüfung
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Baugewerbe, Hoch- und Tiefbau; 540
Management und Verwaltung; 311
Steuer- und Rechnungswese n; 290
Kredit- und Versicherungsw esen; 551
Handel; 329
höh.BB
Verkehrsdienstleistungen
Coiffeurgewerbe und Schönheitspflege
Hauswirtschaftliche Dienste
Reisebüros, Fremdenverk, Freizeitind.
Gastgewerbe und Catering
Sozialarbeit und Beratung
Tiermedizin
Gartenbau
Pflanzenbau und Tierzucht
Baugewerbe, Hoch- und Tiefbau
Werkstoffe (Holz, Papier, Kunststoff, Glas)
Ernährungsgewerbe
Kraftfahrzeuge, Schiffe und Flugzeuge
Chemie und Verfahrenstechnik
Elektronik und Automation
Elektrizität und Energie
Maschinenbau und Metallverarbeitung
Informatik
Management und Verwaltung
Steuer- und Rechnungswesen
Kredit- und Versicherungswesen
Marketing und Werbung
Handel
Design
Audiovisuelle Techniken und Medienproduktion
Unterrichten und Ausbilden
höh.BB: nicht reglement.
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Gastgewerbe und Catering; 6.357
Krankenpflege; 920
Baugewerbe, Hoch- und Tiefbau; 574
Management und Verwaltung; 1.067
Unterrichten und Ausbilden; 568
höh.BB
Verkehrsdienstleistungen
Sport
Gastgewerbe und Catering
Sozialarbeit und Beratung
Kinder- und Jugendarbeit
Krankenpflege
Medizinische Dienste
Baugewerbe, Hoch- und Tiefbau
Architektur und Städteplanung
Werkstoffe (Holz, Papier, Kunststoff, Glas)
Textil, Bekleidung, Schuhe, Leder
Ernährungsgewerbe
Elektronik und Automation
Elektrizität und Energie
Maschinenbau und Metallverarbeitung
Informatik
Recht
Wirtschaft und Verwaltung
Arbeitswelt
Sekretariats- und Büroarbeit
Management und Verwaltung
Steuer- und Rechnungswesen
Kredit- und Versicherungswesen
Marketing und Werbung
Handel
Journalismus und Berichterstattung
Fremdsprachenphilologie
Religion und Theologie
Design
Audiovisuelle Techniken und Medienproduktion
Bildende Kunst
Unterrichten und Ausbilden

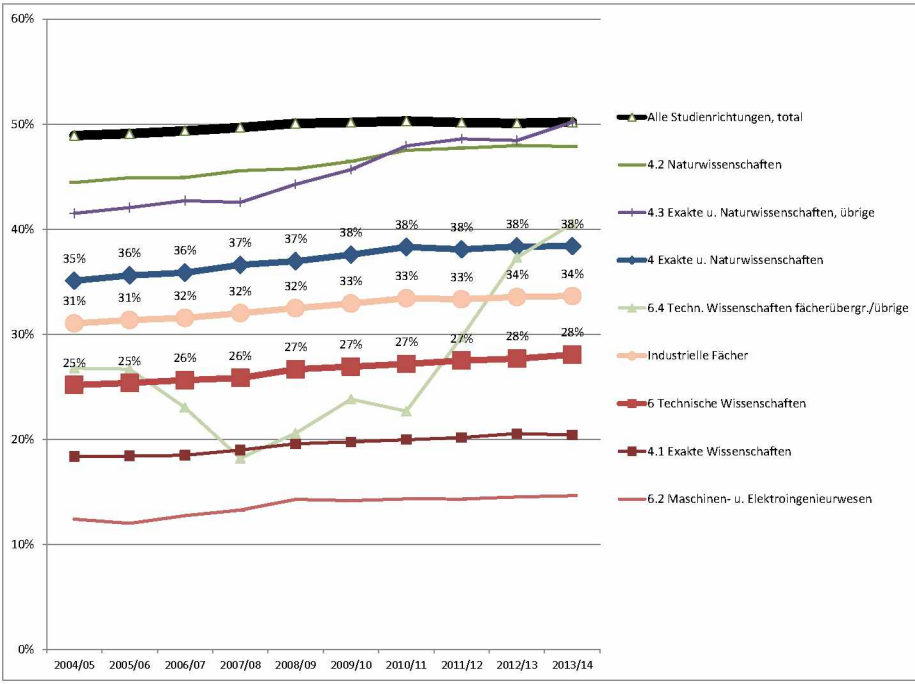
A 56: CH STI-students by programme fields 2004-13, absolute and Index 2004/05=100%

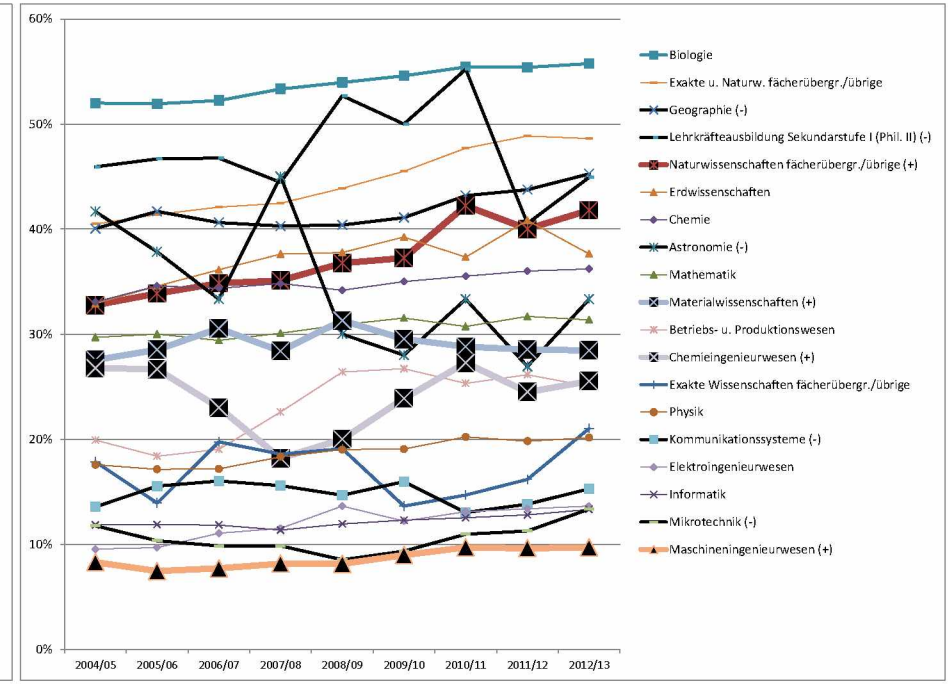
Technische Studien, Anteil und Index





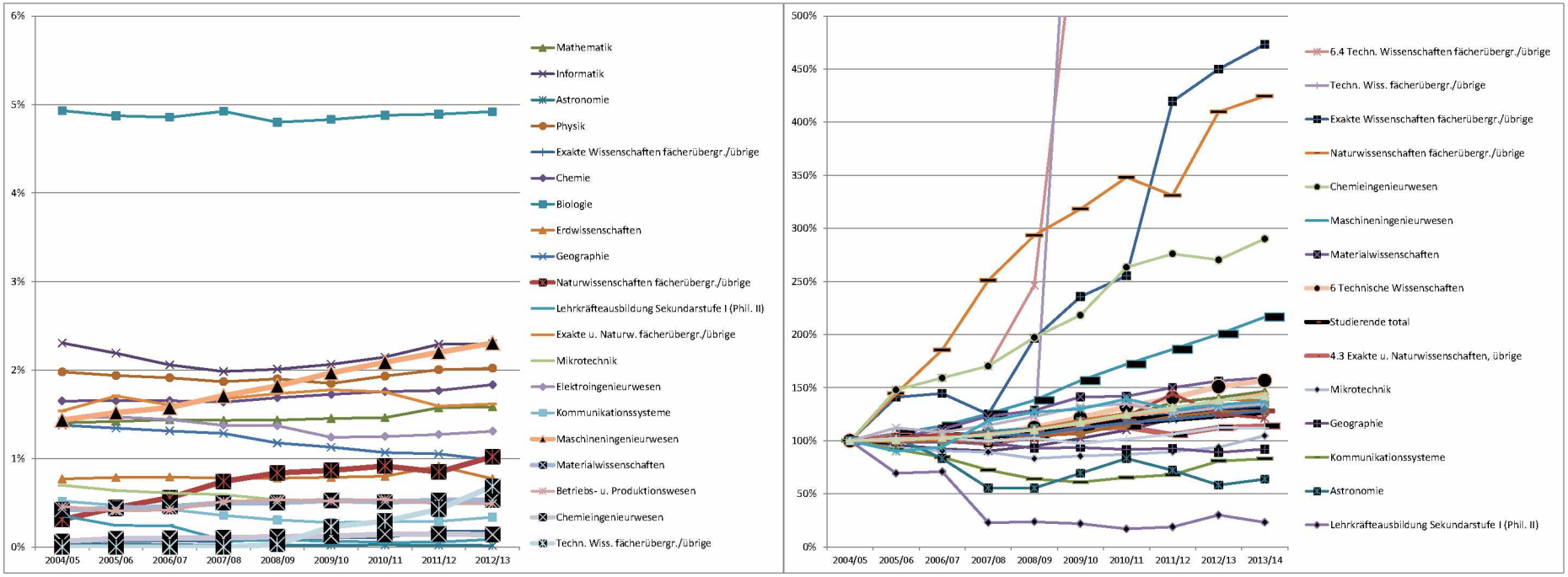
A 57: CH female participation in studies by programmes 2004-13, %
Frauenanteil in



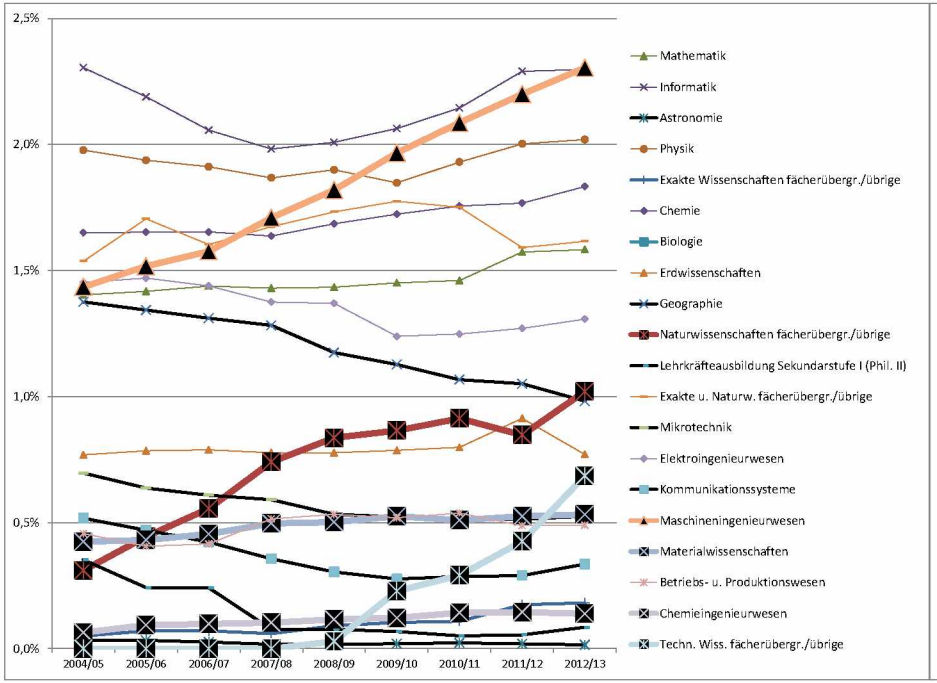

60%
50%
40%
30%
20%
10%
0%
2004/05
2005/06
2006/07
2007/08
2008/09
2009/10
2010/11
2011/12
2012/13
Biologie
Exakte u. Naturw. fächerübergr./übrige
Geographie (-)
Lehrkräfteausbildung Sekundarstufe I (Phil. II) (-)
Naturwissenschaften fächerübergr./übrige (+)
Erdwissenschaften
Chemie
Astronomie (-)
Mathematik
Materialwissenschaften (+)
Betriebs- u. Produktionswesen
Chemieingenieurwesen (+)
Exakte Wissenschaften fächerübergr./übrige
Physik
Kommunikationssysteme (-)
Elektroingenieurwesen
Informatik
Mikrotechnik (-)
Maschineningenieurwesen (+)

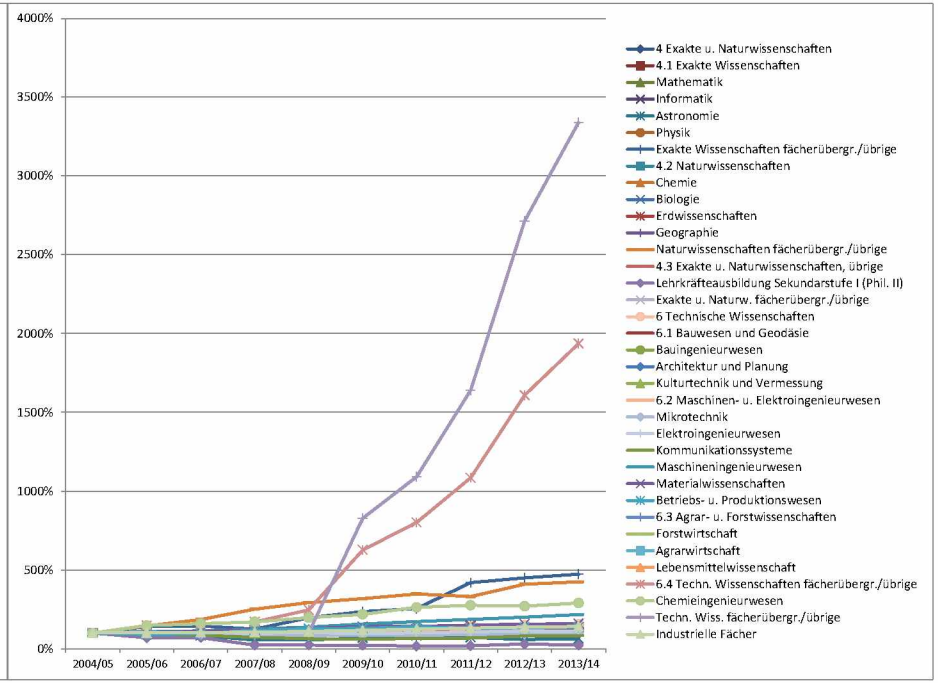
A 58: CH STI-students by programmes 2004-12, % and Index 2004=100%

Technische Studien, detailliert, stärker und schwächer wachsende Richtungen



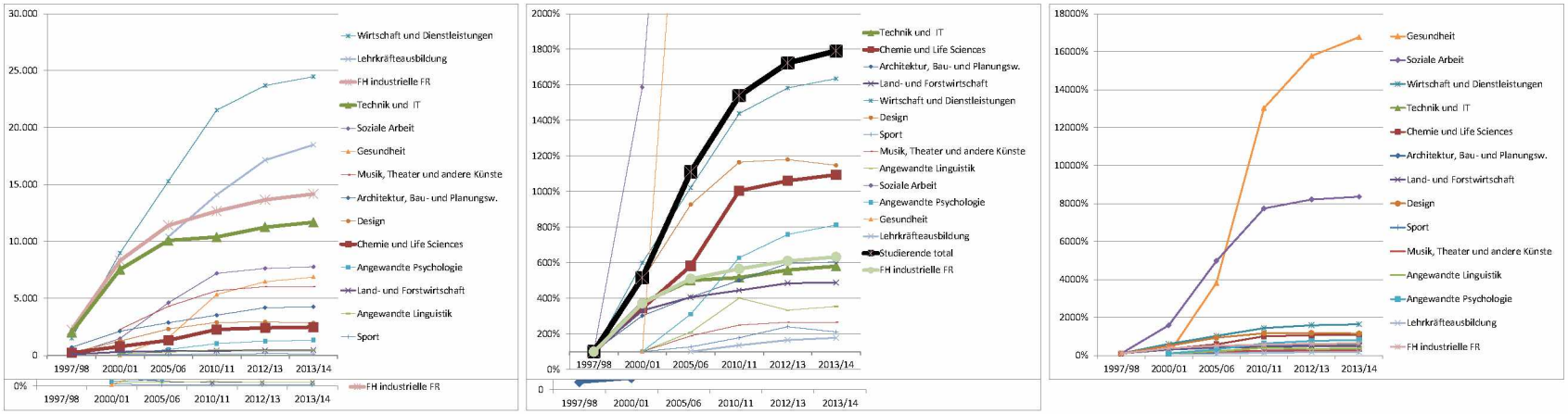
Technische Studien, detailliert, stärker und schwächer wachsende Richtungen



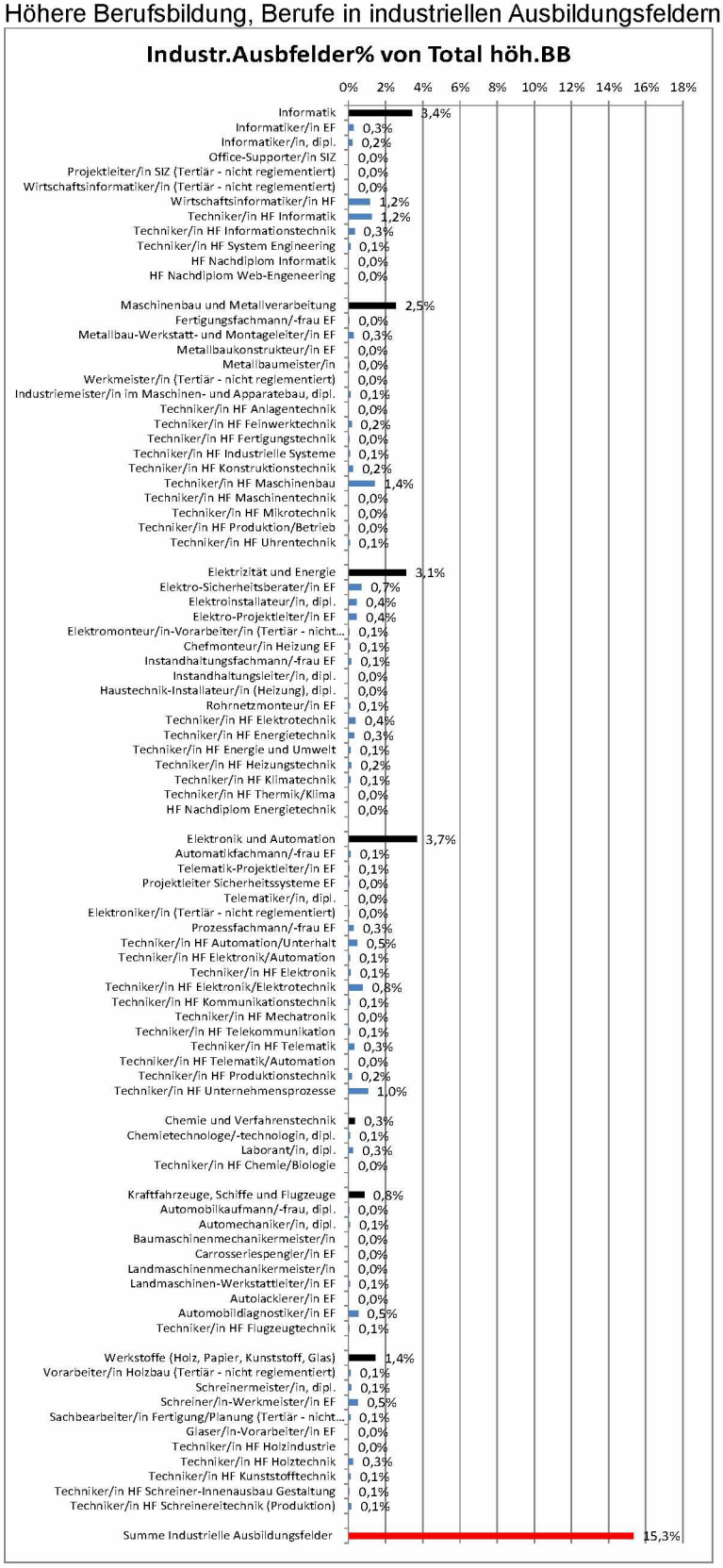


A 59: CH FH students by programmes 1997-12, absolute and %

FH Studierende nach Studien

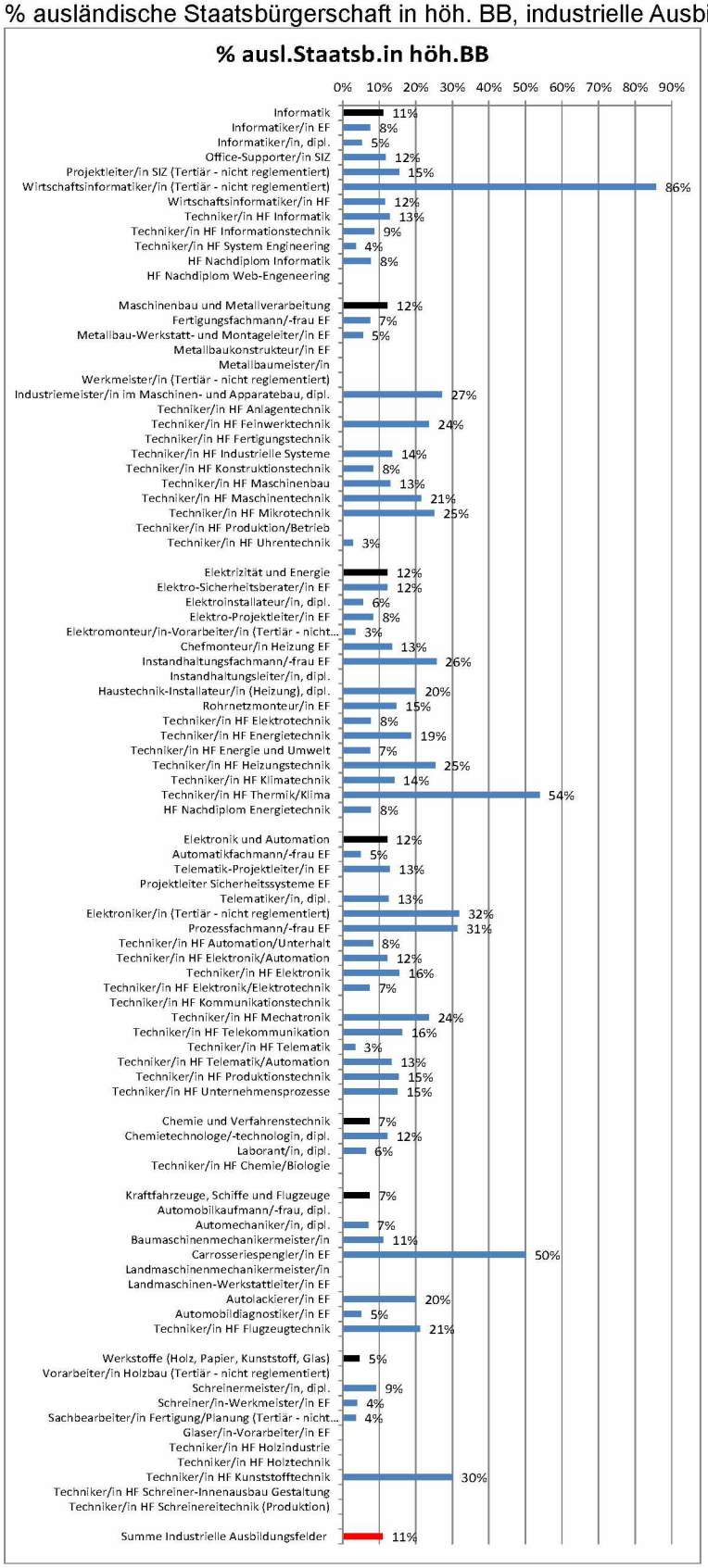


A 60: CH higher VET by industrial fields, females, non-natives %
Höhere Berufsbildung, Berufe in industriellen Ausbildungsfeldern, in % von Total höh.BB

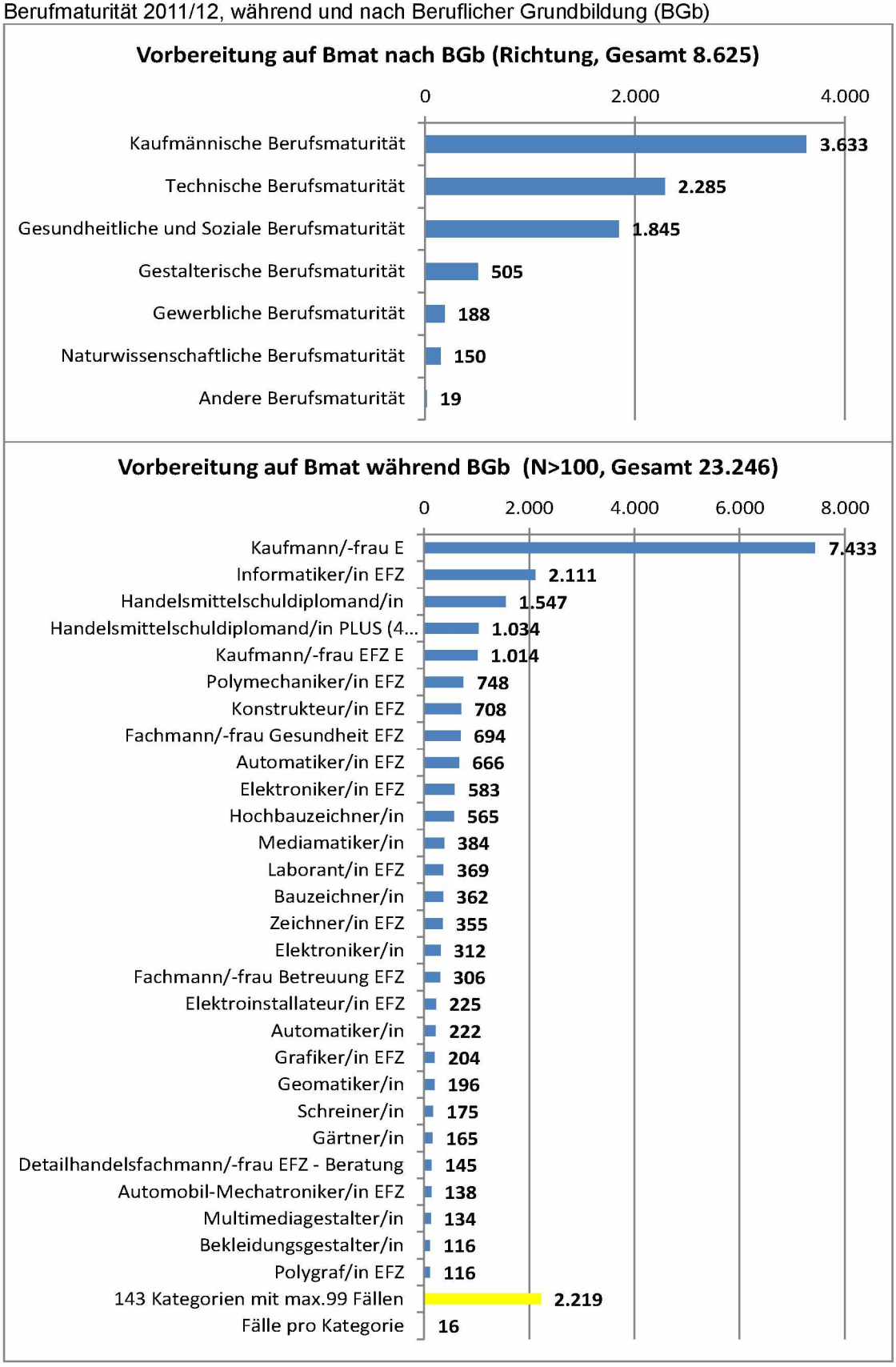


% weiblich in höherer Berufsbildung, industrielle Ausbildungsfelder und Berufe

% ausländische Staatsbürgerschaft in höh. BB, industrielle Ausbildungsfelder und Berufe

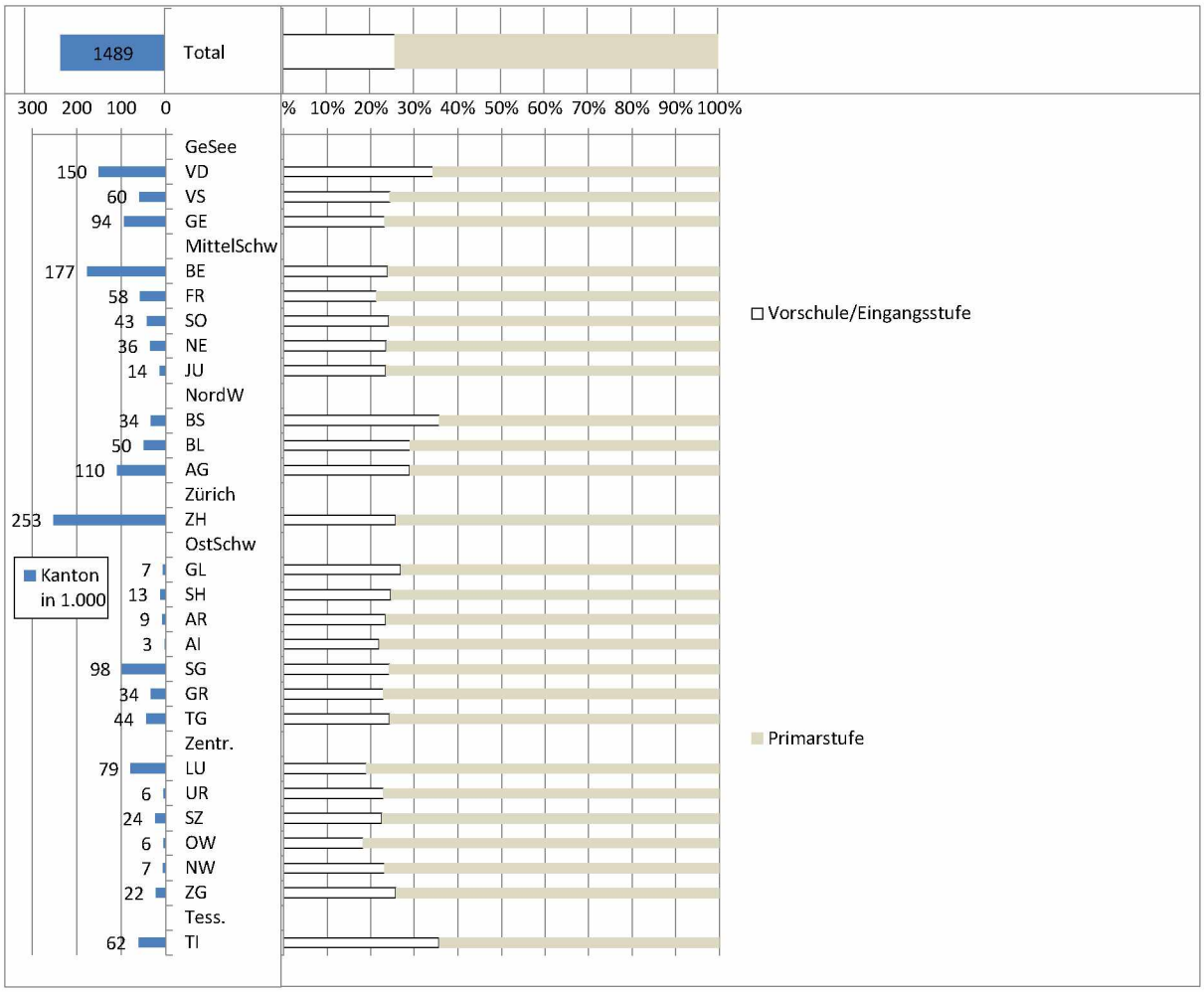


A 61: CH vocational maturity, variants 2011-12, absolute and %
Berufmaturität 2011/12, während und nach Beruflicher Grundbildung (BGb)



A 62: CH cantons, early and primary education 2011-12, absolute total number of students (N*1.000), % participation

Vorschule und Primarschule

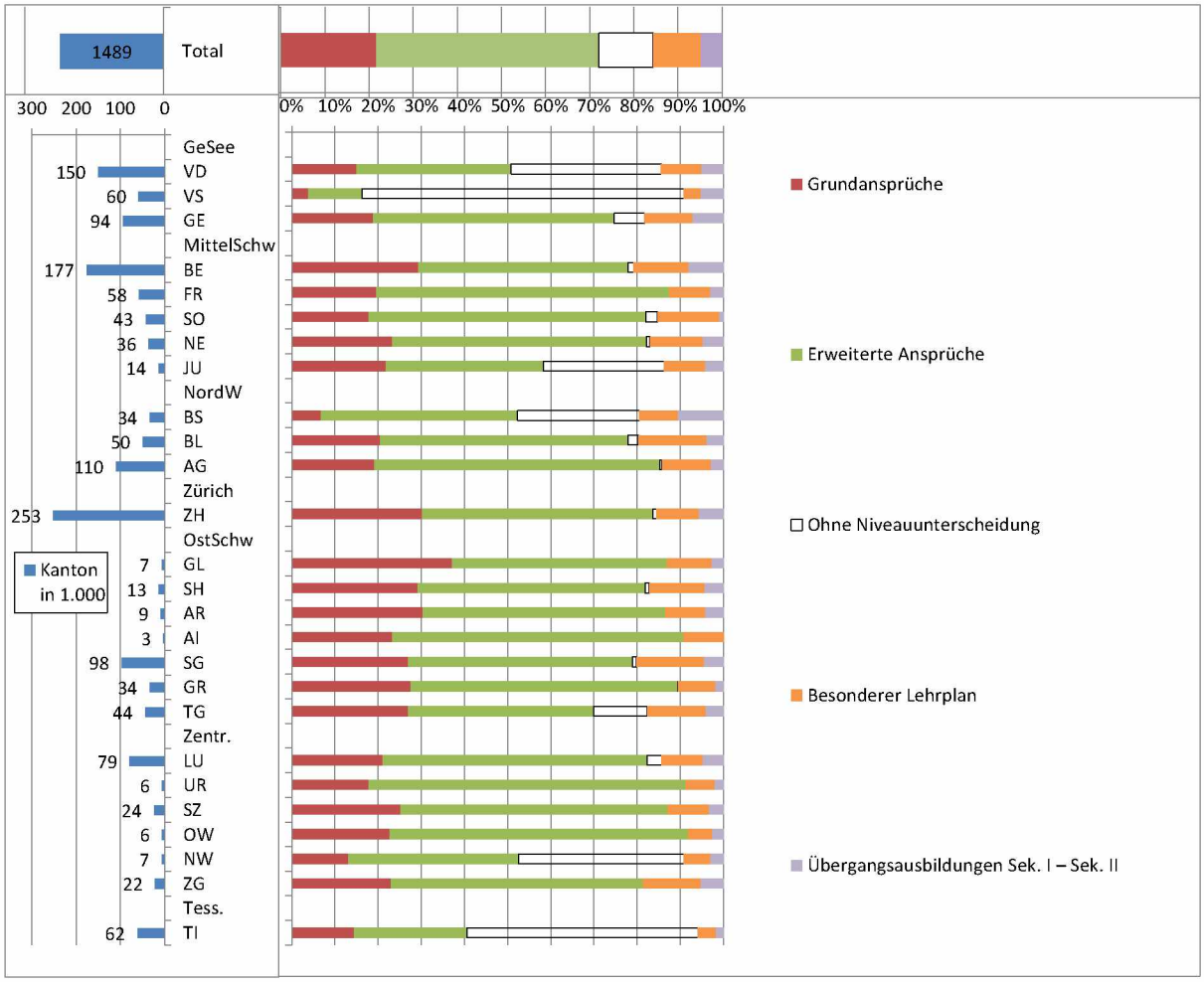


Abkürzungen Kantonsnamen

Genfer See	**Ostschweiz**
VD Waadt	GL Glarus
VS Wallis	SH Schaffhausen
GE Genf	AR Appenzell A. Rh.
Mittelschweiz	AI Appenzell I. Rh.
BE Bern	SG St. Gallen
FR Freiburg	GR Graubünden
SO Solothurn	TG Thurgau
NE Neuenburg	**Zentralschweiz**
JU Jura	LU Luzern
Nordschweiz	UR Uri
BS Basel-Stadt	SZ Schwyz
BL Basel-Landschaft	OW Obwalden
AG Aargau	NW Nidwalden
Zürich	ZG Zug
ZH Zürich	**Tessin**
	TI Tessin

A 63: CH cantons, lower secondary education 2011-12, absolute total number of students (N*1.000), % by tracks

Sekundarstufe 1

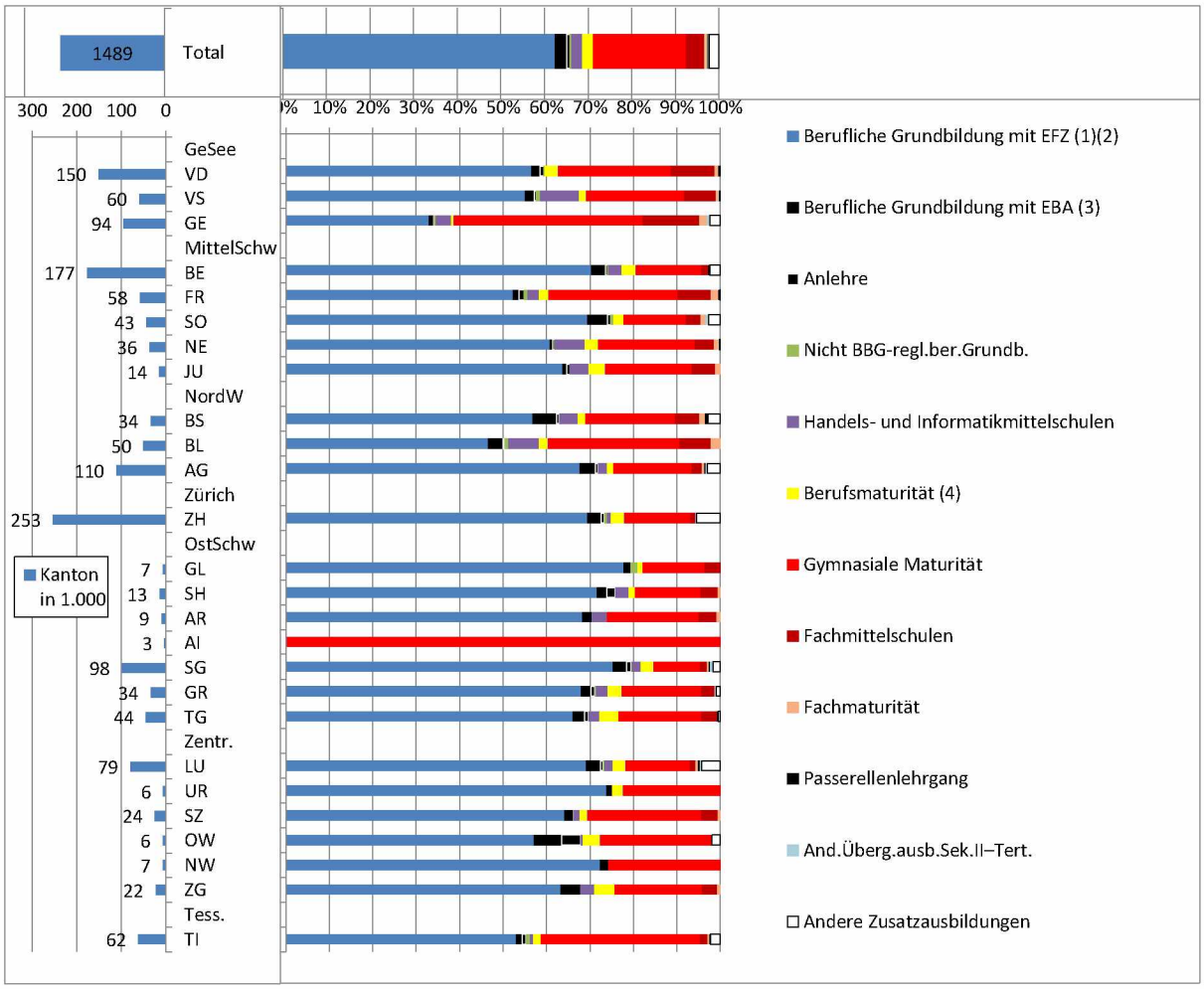


Abkürzungen Kantonsnamen

Genfer See	Ostschweiz
VD Waadt	GL Glarus
VS Wallis	SH Schaffhausen
GE Genf	AR Appenzell A. Rh.
Mittelschweiz	AI Appenzell I. Rh.
BE Bern	SG St. Gallen
FR Freiburg	GR Graubünden
SO Solothurn	TG Thurgau
NE Neuenburg	Zentralschweiz
JU Jura	LU Luzern
Nordschweiz	UR Uri
BS Basel-Stadt	SZ Schwyz
BL Basel-Landschaft	OW Obwalden
AG Aargau	NW Nidwalden
Zürich	ZG Zug
ZH Zürich	Tessin
	TI Tessin

A 64: CH cantons, upper secondary education 2011-12, absolute total number of students (N*1.000), % by tracks

Sekundarstufe II

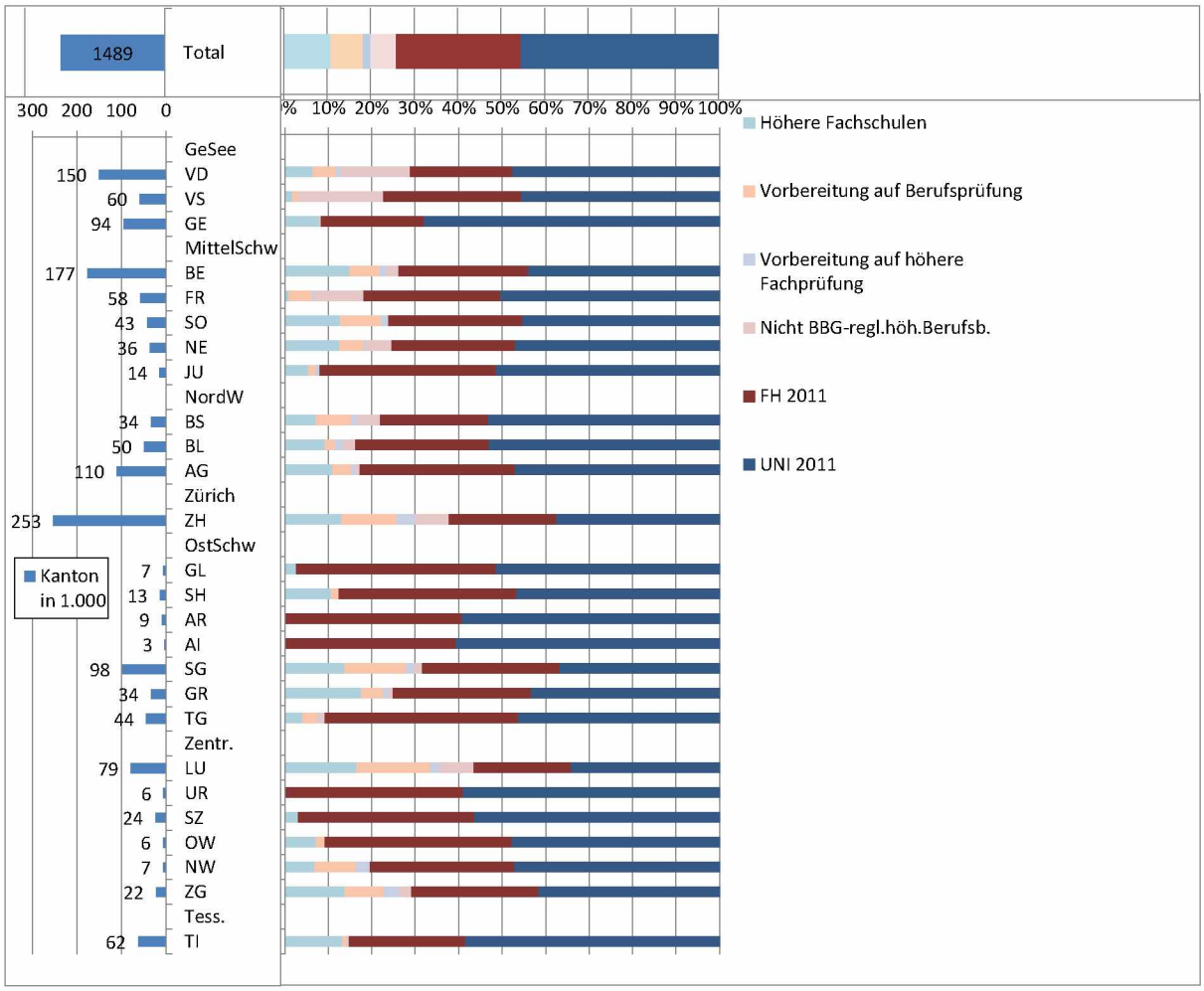


Abkürzungen Kantonsnamen

Genfer See	**Ostschweiz**
VD Waadt	GL Glarus
VS Wallis	SH Schaffhausen
GE Genf	AR Appenzell A. Rh.
Mittelschweiz	AI Appenzell I. Rh.
BE Bern	SG St. Gallen
FR Freiburg	GR Graubünden
SO Solothurn	TG Thurgau
NE Neuenburg	**Zentralschweiz**
JU Jura	LU Luzern
Nordschweiz	UR Uri
BS Basel-Stadt	SZ Schwyz
BL Basel-Landschaft	OW Obwalden
AG Aargau	NW Nidwalden
Zürich	ZG Zug
ZH Zürich	**Tessin**
	TI Tessin

A 65: CH cantons, tertiary education 2011-12, absolute total number of students (N*1.000), % by tracks

Tertiärstufe



Abkürzungen Kantonsnamen

Genfer See	Ostschweiz
VD Waadt	GL Glarus
VS Wallis	SH Schaffhausen
GE Genf	AR Appenzell A. Rh.
Mittelschweiz	AI Appenzell I. Rh.
BE Bern	SG St. Gallen
FR Freiburg	GR Graubünden
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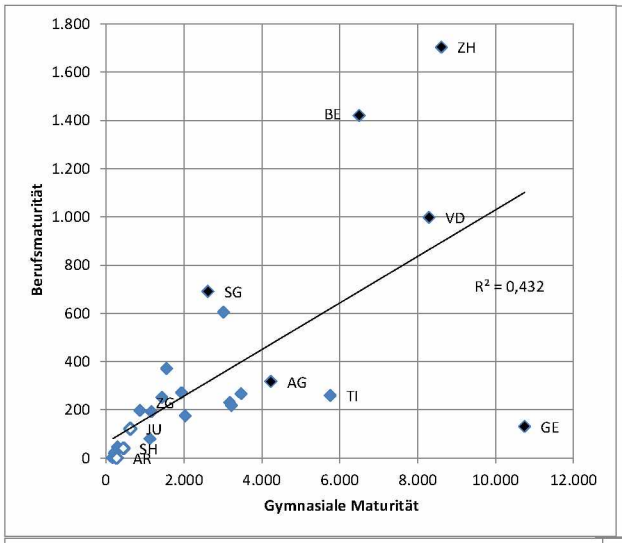
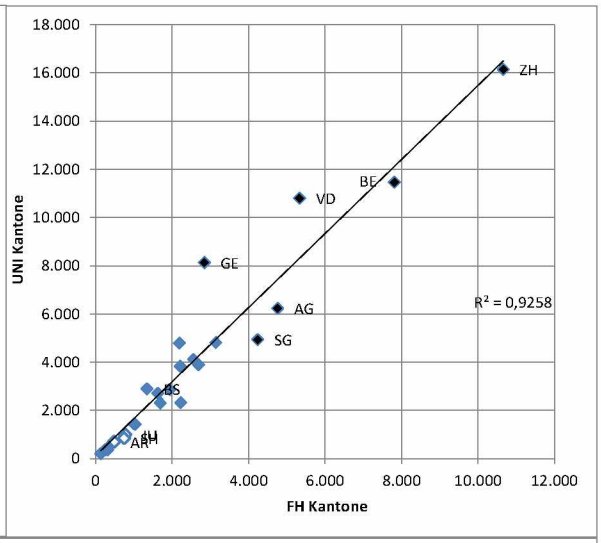
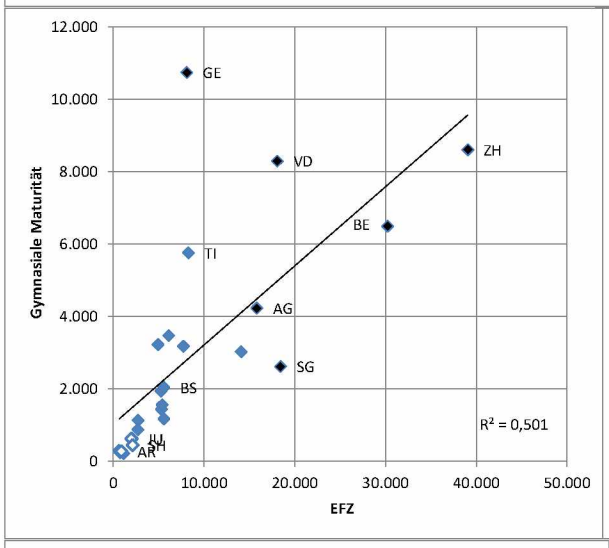
JU Jura	LU Luzern
Nordschweiz	UR Uri
BS Basel-Stadt	SZ Schwyz
BL Basel-Landschaft	OW Obwalden
AG Aargau	NW Nidwalden
Zürich	ZG Zug
ZH Zürich	Tessin
	TI Tessin

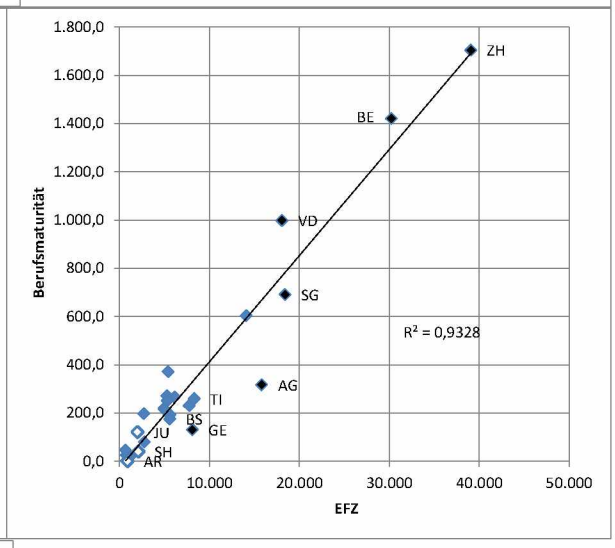
A 66: CH cantons, credentials, participation, selected relationships, absolute

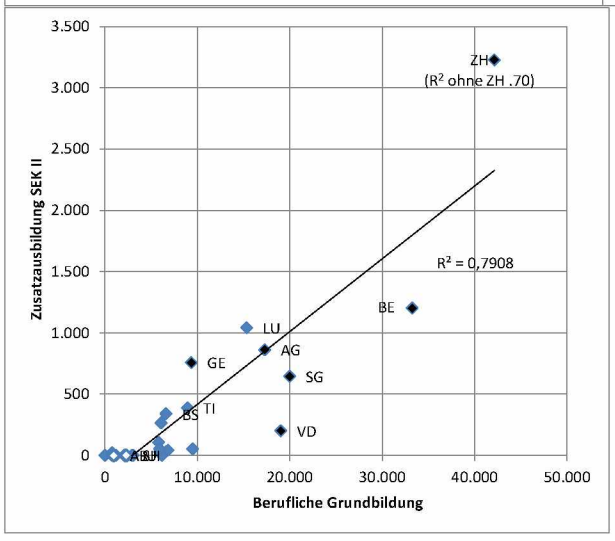
Alle Kantone absolut, Maturität, Hochschulbesuch, Berufsbildung, Weiterbildung



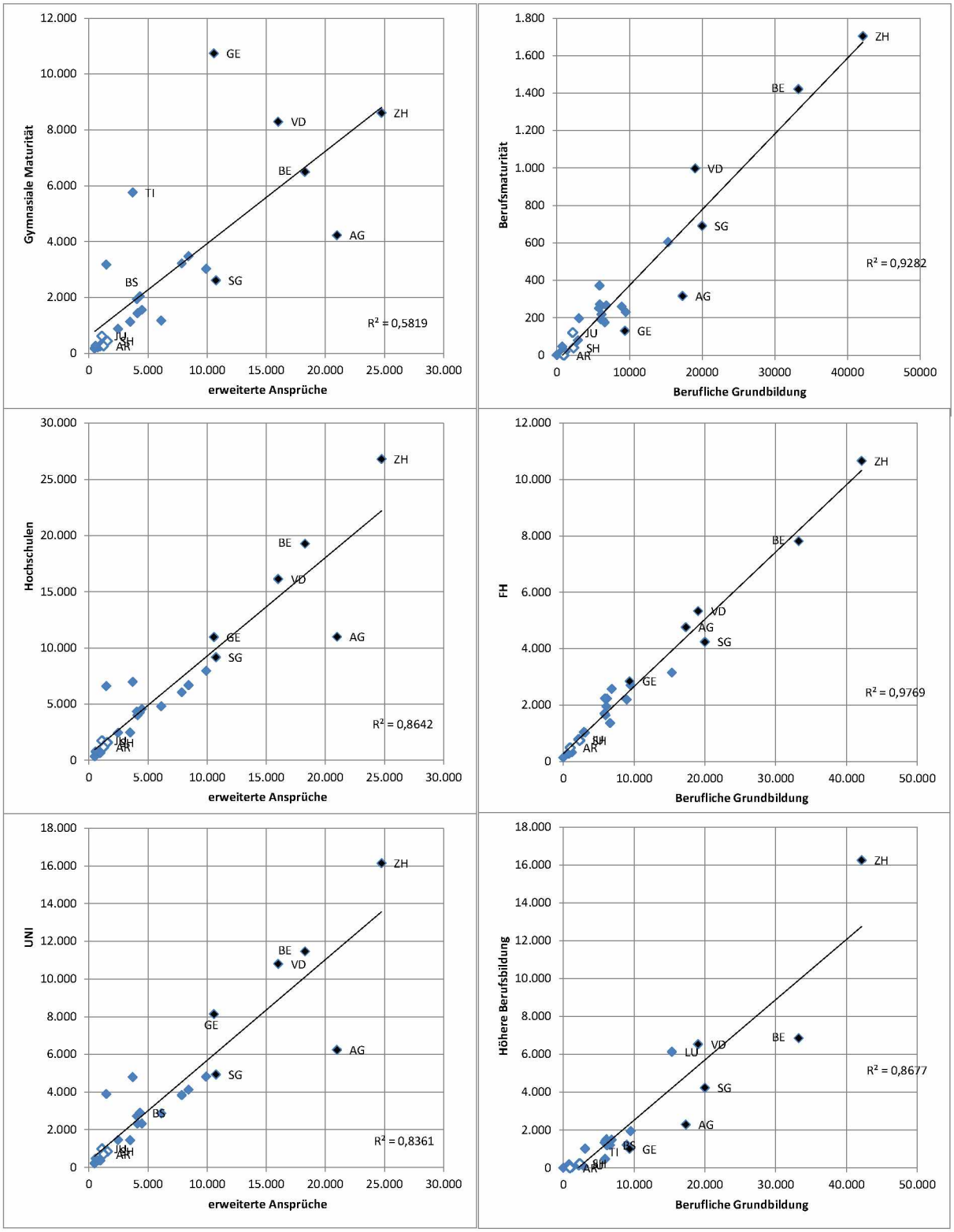




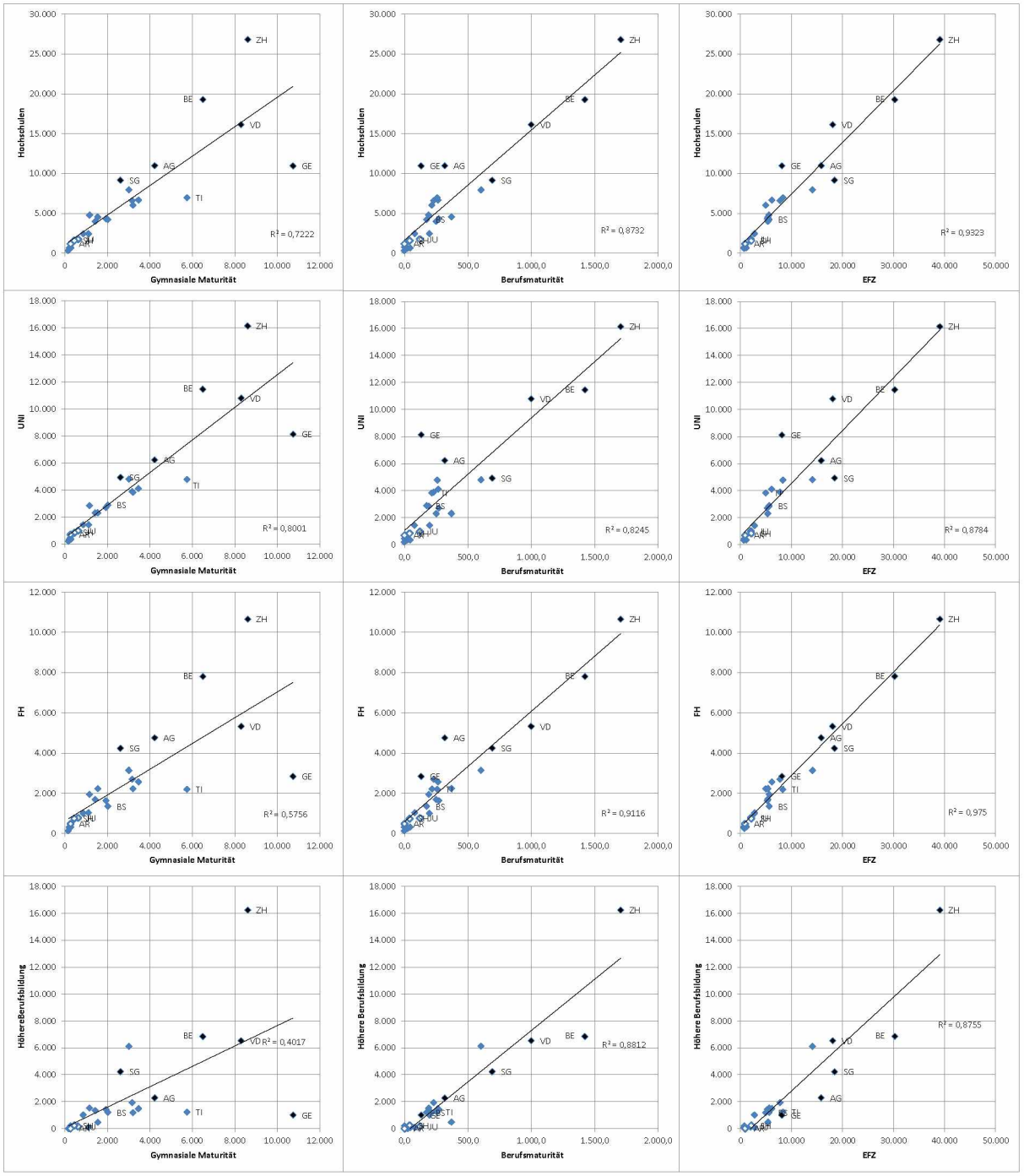




Alle Kantone absolut, Allgemeinbildung, Berufsbildung, Hochschulbesuch

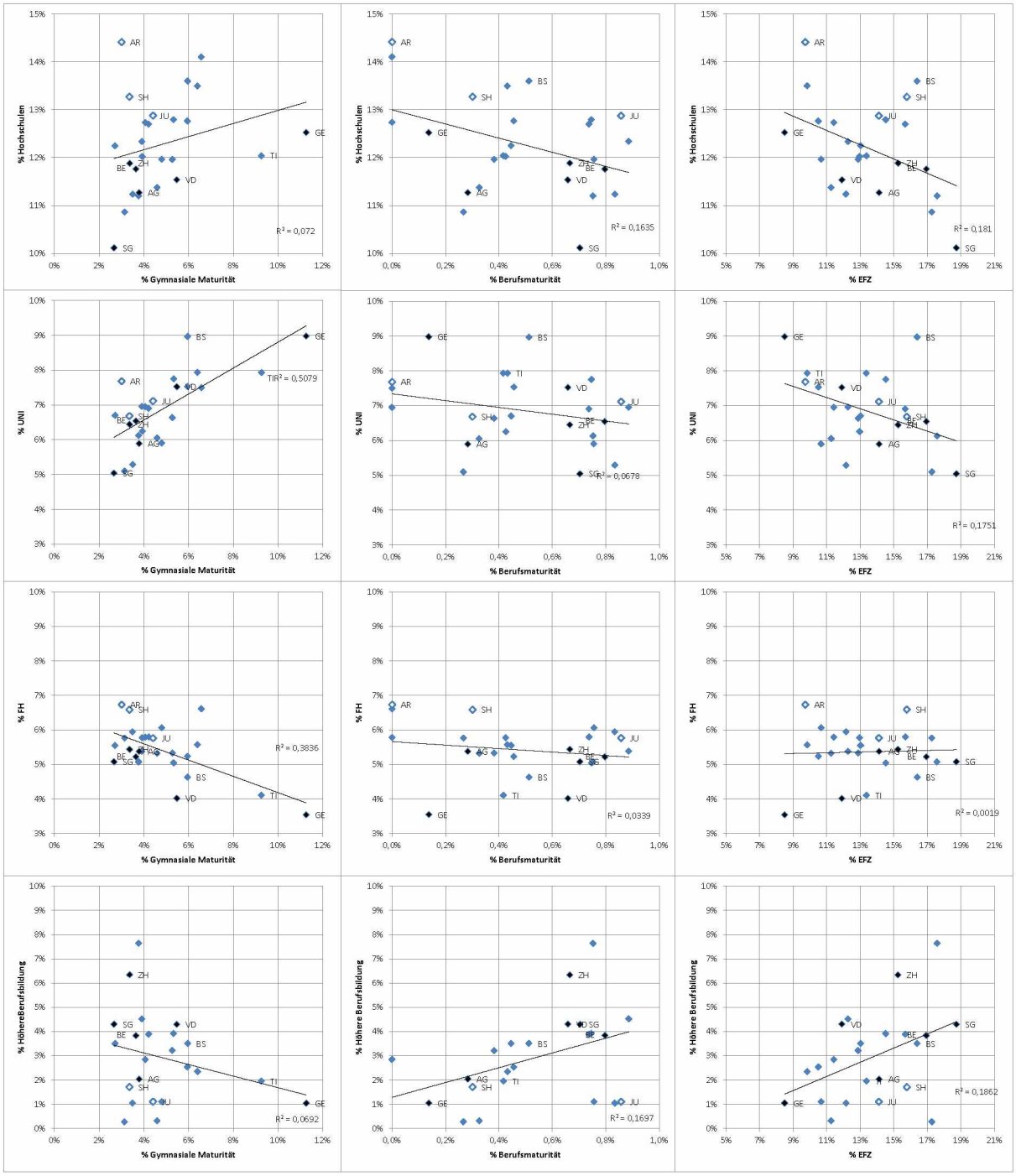


Alle Kantone, Maturität, EFZ und Hochschulbesuch, 2011 absolut,



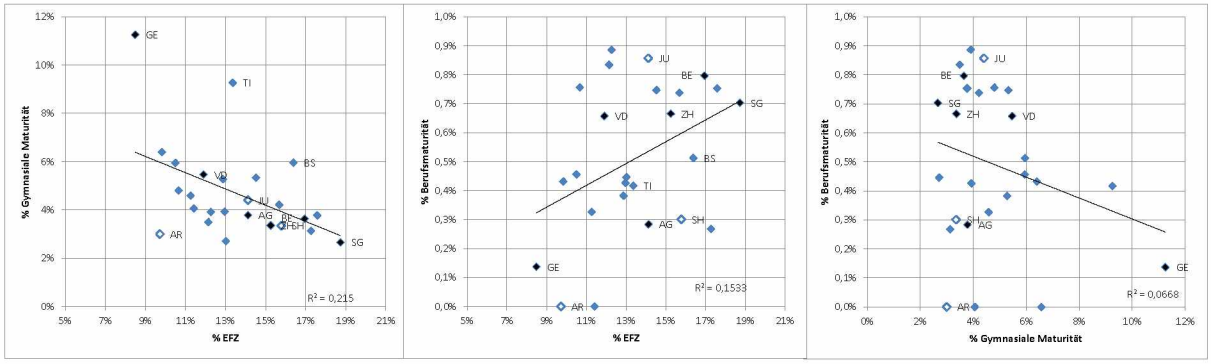
Alle Kantone, Maturität, EFZ und Hochschulbesuch, 2011 % an allen SchülerInnen&Stud.

Alle Kantone, Maturität, EFZ und Hochschulbesuch, 2013 % an allen SchülerInnen&Stud.

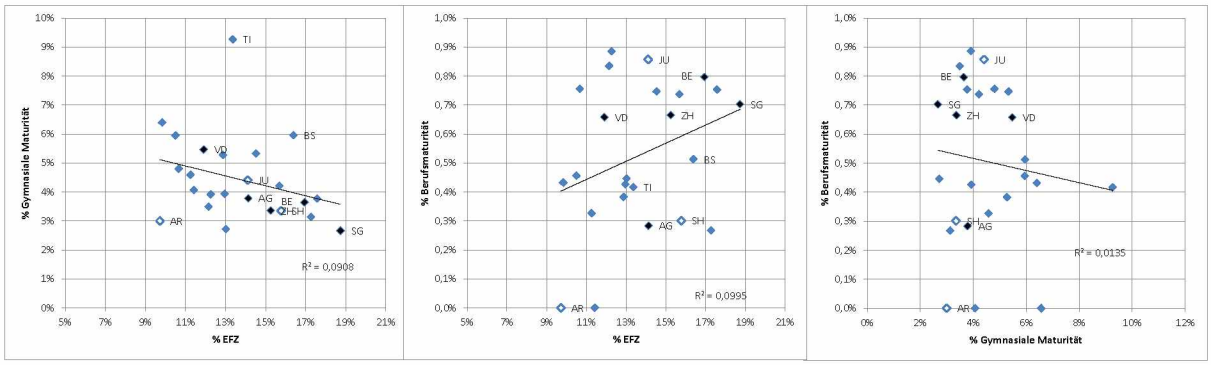


EFZ, Gymnasiale und Berufsmaturität, % von allen SchülerInnen/Stud. 2011

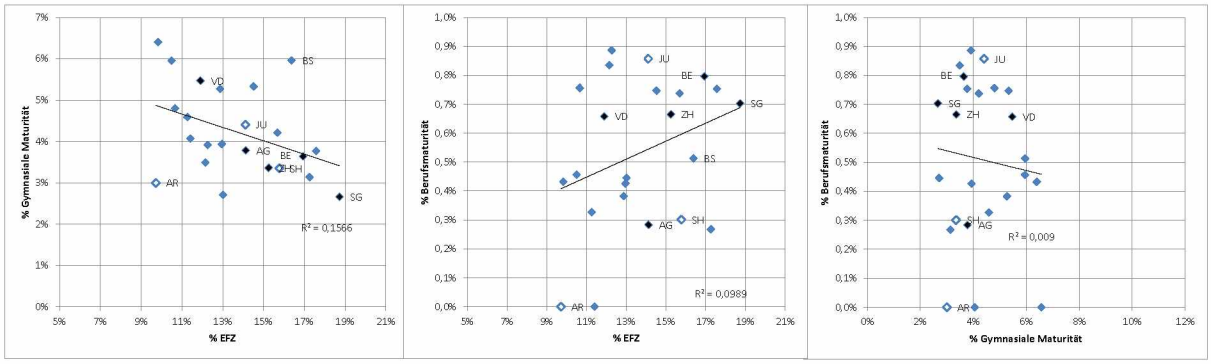
Alle Kantone



Ohne Genf

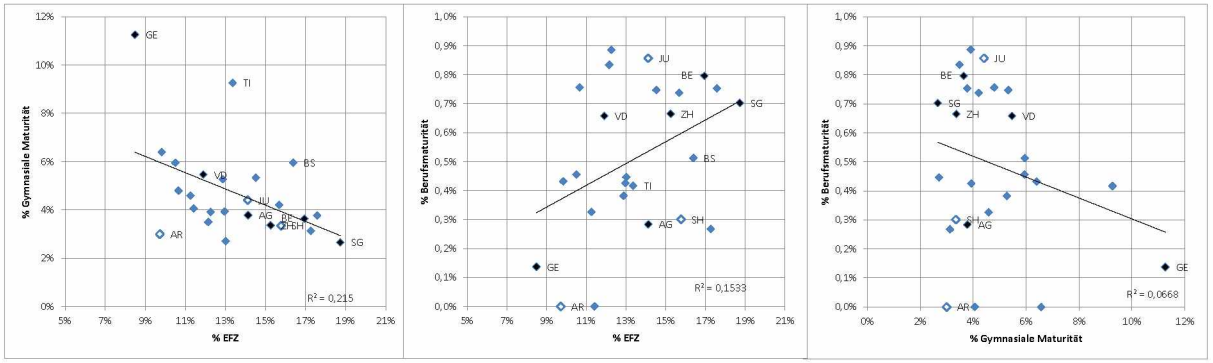


Ohne Genf und Tessin

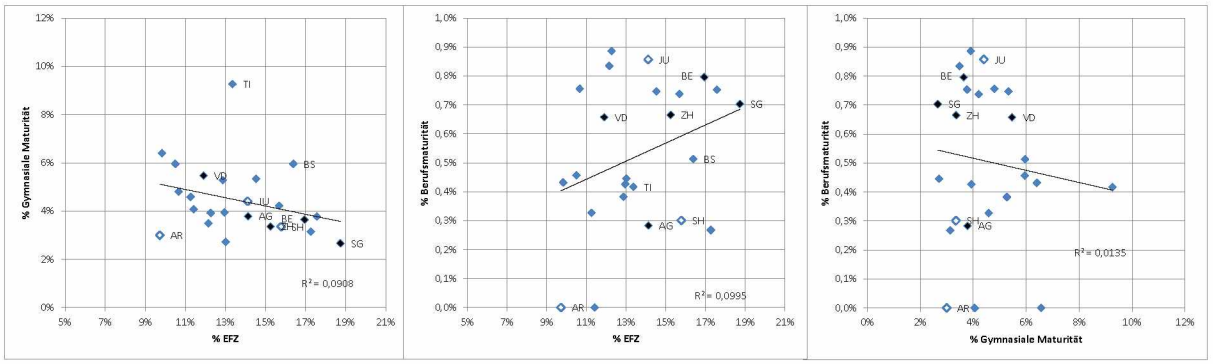


EFZ, Gymnasiale und Berufsmaturität, % von allen SchülerInnen/Stud. 2013

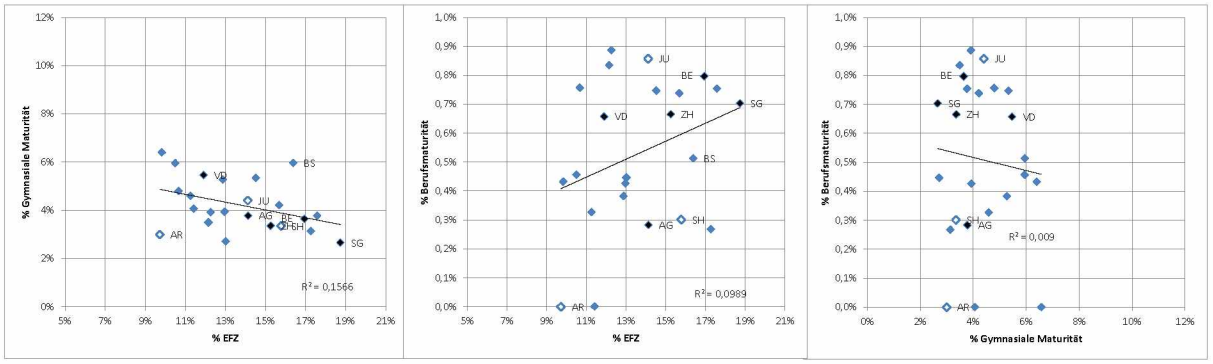
Alle Kantone



Kantone ohne Genf



Kantone ohne Genf und Tessin



A 67: Austria: Transitions into higher education from academic and vocational education

Abb. 5 Übergänge aus der Berufs- und Allgemeinbildung in das Hochschulwesen

Quelle: BMWF Universitätsbericht 2011, S. 171 (Übergang), NBB 2009, Indikator c5, S. 66 (Zugang; vgl. auch Statistik Austria, Bildung in Zahlen 2009/2010, S.53).

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Author: Lorenz Lassnigg

Title: Apprenticeship policies in comparative perspective. ET-structures, employment relationship, export.

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